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SOFTWARE DESIGN DOCUMENT
FOR THE
FACILITY IDENTIFICATION INITIATIVE (FII)

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Prepared for:

United States Environmental Protection Agency
Office of Information Resources Management
401 M Street, SW.
Washington, DC 20460

Delivery Order Project Officer:

Charles D. Catlin

Prepared by:

EPA Systems Development Center
(A Contractor Operated Facility)
Science Applications International Corporation
200 North Glebe Road, Suite 300
Arlington, VA 22203

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EXHIBITS

1.0 INTRODUCTION

This document specifies the design specifications for the Facility Identification Initiative (FII) application in Envirofacts. FII is a product of the Environmental Protection Agency's (EPA) Information Resources Management=s (IRM) Executive Steering Committee (ESC). The FII application development is a key element in the EPA=s initiatives to improve information management, including:

- Using information strategically to achieve the Agency=s mission.
- Using information to empower EPA=s partners.
- Establishing an integrated information infrastructure to support a comprehensive approach to environmental protection.
- Establishing a more effective organization for information resources management.

FII has been instrumental in re-engineering the Facility Index System (FINDS) to meet the need to Aestablish an integrated information infrastructure.@ The FII application is being developed as a re-engineered FINDS, a component of Envirofacts in an Oracle relational environment, at the request of the Office of Information Resources Management (OIRM), Enterprise Information Management Division (EIMD), under Delivery Order (DO) 91 of the Mission Oriented Systems Engineering Support (MOSES) contract at the EPA Systems Development Center (SDC).

FII goals relevant to this system are:

- To obtain and maintain an accurate set of uniform identification information about facilities and other place-based objects.
- To establish an infrastructure to manage this identification information in a manner that efficiently supports data linkage capabilities.
- To provide a means of access to this information by all interested parties and to establish linkages to more detailed environmental data.

The One Stop Reporting Program, a major influence in the development of the FII application, is a reinvention program designed to streamline environmental reporting for the regulated community. The program also provides access to integrated environmental information, and improves public access to meaningful information about both the industry and the regulator's performance.

1.1 Background

FINDS functions as a centralized IBM mainframe ADABAS database of facilities that are regulated or monitored by EPA programs. FINDS maintains a set of linkages that allow the FINDS identification number to relate data for the same facility in multiple program office systems. FII development incorporates the redesign of the FINDS database as part of the Envirofacts Warehouse in an Oracle database environment.

1.2 Purpose

The purpose of this design document is to identify the specifications to be used in developing the FII application to function as the source for EPA=s integrated facility identification and locational holdings.

1.3 Scope

The scope of this design document includes all requirements, data, processing, reporting, maintenance, and security, as defined for the FII application Operations and Maintenance (O&M) capability and in support of the FII data in Envirofacts.

1.4 Identification

This document serves as the design specification for the FII application O&M capability and in support of the FII data in Envirofacts. This work is being conducted by the FII Development Team under DO 91 at the SDC.

1.5 System Overview

FII Version 1.0 is currently being developed as a production system that includes program office data from FINDS and the functionality of FINDS that supports integration of EPA data. On March 31, 1998, prior to the full implementation of the FII application, some of the supporting data structures were implemented in Envirofacts to support queries of current Envirofacts FINDS data. By September 30, 1998, the FII application will become fully functional and all facility identification data will be installed in the FII application, all functionality for managing that data will be implemented, and the mainframe FINDS will cease to operate.

The functions of FINDS that relate to the access of Dun and Bradstreet (D&B) data will be implemented in Envirofacts on the EPA Intranet, where access is restricted. These D&B functions will be accessible through Envirofacts queries, but not as part of the FII application.

During the FII application development and testing period, FINDS continues to serve the needs of EPA and the public, while operating on the EPA IBM mainframe computer at Research Triangle Park (RTP), North Carolina.

FII data will be available to all Envirofacts users as its central facility identification and locational component, and as the source of integrated access to environmental data. Oracle is the primary database component of the EPA Information Technology Architecture (ITA) for the World Wide Web (WWW)-based applications and support. Envirofacts has continued to be developed to complement and be consistent with the Agency=s information management data architecture, using all applicable EPA information management standards. The Envirofacts database is available to Agency personnel on EPA internal servers. A wide variety of non-Agency users (e.g., industry, environmental groups, and the general public) can access the database through the WWW on the EPA public access server.

The development environment for the FII application (i.e., the Oracle Relational Database Management System [RDBMS], using the UNIX operating system) is consistent with the hardware, software, and communications environment for Envirofacts. The use of the Oracle RDBMS also satisfies the Federal Data Processing standard, which requires that all relational databases be based on the Structured Query Language (SQL). FII application implementation in the Envirofacts environment will provide timely access to facility identification information and direct integration of Agency data for program office data implemented in Envirofacts.

The re-engineering of FINDS into the FII application will include the following strategic capabilities that did not exist in the mainframe FINDS system:

- Search/resolution support for Complex Facilities (e.g., water systems) when specified.
- Support for future state data sharing.
- Support for data entry and resolution of North American Industry Classification System (NAICS) Codes.
- Extended, flexible facility searches by contact and organization name.
- Access to program office-maintained contact, organization, and mailing address information.
- Interface tools for data analysis (e.g., multiple browsers, multiple searches).
- Public access to integrated EPA facility data.
- A variety of access methods supporting Web-based reporting.

1.6 Assumptions

Assumptions pertaining to the FII application design specification include:

- Two separate database systems will be maintained. The FII application O&M database will be incorporated into the Envirofacts environment and be accessed through the EPA Intranet. The search and retrieval of FII data will be supported as the facility component of Envirofacts and will be available for Internet-based public access.

- Facility identification numbers and their linkages to program office system identifiers from the existing FINDS will be used for the initial load of FINDS.

- On-going resolution of FII with facility data from states and program office systems will consist of two processes. The first process is resolution on a monthly basis for all program office systems included in Envirofacts. The second process is resolution of data extracts from program office systems, states, and other designated Agency data collections that are facility-based and not available as Envirofacts components. It is anticipated that EPA will make these non-Envirofacts files available on at least a semi-annual basis.

- The following external interfaces will be supported:

  - External files extracted from state facility systems and EPA environmental program office systems to support data maintenance transactions (i.e., adding, updating, and deleting rows)

  - Manual data maintenance, both for Headquarters staff and for designated state and regional representatives shall be supported through the Intranet.

  - Interfaces will be supported through the Internet for receipt of public comments and discrepancy reporting.

- Facility location and identification data for all participating states and program office systems will be contained in FII; a virtual master FII record will be created.

- The D&B data files will be available on the EPA Intranet for reference to facilities through the DUNS Number.

All relevant EPA and Federal standards for information management will be incorporated in FII, including:

- Federal and Agency standards for data, data format, and domains of reference data. Standards are currently being developed to provide uniform definitions and formats for commonly used data in Agency data systems. These standards are recorded in the Environmental Data Registry (EDR), including geopolitical data (i.e., country, state, county, and tribal lands), Standard Industrial Classification (SIC) and NAICS Codes, facility category and facility type, and metadata for spatial data.

- Locational Data Policy (LDP) standards as described through the Method, Accuracy, and Description (MAD) Codes implementation guidelines. FII will support interfaces with the Locational Reference Tables (LRT) for EPA-regulated and monitored facilities, and associated features.

- Federal and Agency standards for the computing infrastructure related to hardware, software, and telecommunications networks.

1.7 Constraints

The FII application is developed within the constraints of a variety of on-going EPA initiatives which relate to goals for the reinvention of government. Initiatives that affect the design and development are:

- Reinventing Environmental Information (REI) standards development, including data standards (e.g., standards for date and address representation), system development standards (e.g., standards for naming and defining data elements), and standard reference domains (e.g., geopolitical data and SIC Codes).

- The FII interim standard for facility identification, including the need for standard locational and identification data, and assignment of a Unique Identifier (UIN) to all facilities regulated by EPA.

- The One Stop Reporting Program=s demonstration of the feasibility of full-scale implementation of the basic elements for an effective environmental reporting and data management system, with emphasis on state level participation.

Issues that affect the implementation include:

- The inconsistent identification of facilities and other features of environmental concern in Agency program office systems.

- The multiplicity of hardware, software, and communications networks used within the Agency that inhibit data sharing.

1.8 User Community

The FII application serves the needs of several different types of users, through access to Envirofacts via the Intranet and Internet. The different types of users have been identified based on their role and needs:

- Federal EPA users such as Headquarters, enforcement officials, hazardous waste managers, regional offices, program offices, and program office system managers.

- State environmental agencies and state partners, who provide facility data, obtain UINs, and facilitate the use of UINs in state data that are provided to the Agency.

- Other Federal government agencies such as the Department of Transportation (DOT), United States Geological Survey (USGS), Federal Emergency Management Agency (FEMA), and Occupational Safety and Health Administration (OSHA).

- General public, such as community action committees and grass-roots organizations, environmental groups, individual companies, and industry groups.

2.0 REFERENCES

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Facility Index System (FINDS) 4.2 Physical Design Amended, SDC-0055-050-BS-3015A, May 15, 1995.

Updated Facility Index System (FINDS) Operational and Procedural Manual, SDC-0055-040-AS-6009, November 25, 1996.

Facility Index System (FINDS) User=s Manual, SDC-0055-040-DB-4013C, July 1996.

Facility Index System (FINDS) Phase 2 and Phase 3 Requirements Statement, SDC-0055-029-AM-2021A, September 8, 1993.
Specifications for FINDS Development, Phases 2 and 3, SDC-0055-029-PJ-3004, December 16, 1993.

Recommended Data Elements for the Data Collection Form in Support of the Key Identifier Data Standards, SDC-0055-057-LF-4029, June 13, 1995.

Approach for Implementation of Corporate Tree Information to Support the Key Identifier Rule - Working Paper, SDC-0055-057-LF-4028B, June 26, 1995.

Unique Identification Number (UIN) for Identification of Place-Based Objects at the Environmental Protection Agency, SDC-0055-057-LF-5031A, June 24, 1996.

Envirofacts Database Description and Maintenance Procedures, SDC-0055-051-MA-5031, January 31, 1996.

Interim Final Recommendations, Facility Identification Initiative, December 15, 1997.

Environmental Data Registry Website, URL: *http://www.epa.gov/edr/*.

Facility Location and Identification Data Content Standard, Federal Geographic Data Committee (FGDC), Public Review Draft, December 1997.

Requirements Specification For The Facility Identification Initiative System (FIIS) SDC-0055-091-LF-7041, March 4, 1998.

3.0 SYSTEM DESCRIPTION

The FII application provides a registry of EPA-regulated facilities, monitored facilities, and other facilities of interest to the States. This registry will provide a repository of facility locational and identification data, which will enable integrated queries of the environmental data, and the ability to track environmental actions captured in program media data systems. In addition, the FII application provides for the capability for states to integrate state and national environmental data for regulated facilities.

The FII application will provide a UIN for these facilities. The UIN will support integrated search and retrieval of environmental data about a facility across program office systems by establishing linkages with program office system identifiers. The FII application will assist regulatory and enforcement actions by providing linkages to locational data (i.e., latitude, longitude, and associated metadata) and historical records that enable tracking of environmental activities by facility and responsible organizations. Envirofacts will provide access to corporate hierarchies that show parent and subsidiary companies, that is, D&B data files through the EPA Intranet.

3.1 System Operation

The FII application will provide a set of tools with the capability to perform integrated searches across facility-based program office systems contained in Envirofacts. These are planned to include the Aerometric Information Retrieval System Facility Subsystem (AIRS/AFS), the Biennial Reporting System (BRS), the Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS), the Permit Compliance System (PCS), the Resource Conservation and Recovery Information System (RCRIS), the Toxics Release Inventory System (TRIS), and others as they become available (e.g., the Safe Drinking Water Information System [SDWIS]). FII contains locational and identification data from program office systems that are not contained in Envirofacts (e.g., Section Seven Tracking System [SSTS], Federal Facilities Information System [FFIS], National Compliance Database [NCDB], PCB Activity Database System/PCB-Handler Activity Data System [PADS], and Enforcement Docket System [DOCKET]). FII will also contain geographic address, mailing address, and industrial classification codes (i.e., SIC Code or NAICS Code).

The FII application includes active facilities (i.e., facilities for which program office systems currently collect and store environmental data), facilities of interest (i.e., places of environmental interest for which program office data does not yet exist), and inactive facilities (i.e., facilities that are no longer monitored) with linkage history to program office identifiers.

3.2 Equipment

The FII application in Envirofacts will operate in the production UNIX environment at RTP as part of the Envirofacts database server. Client machines accessing the FII application must have sufficient disk space and memory to load and run the FII application and reports. The minimum desired recommendation for Windows-based client machines is a Pentium 90 with 32 megabytes (MB) of Random Access Memory (RAM). FII application users are recommended to use Netscape Web Browser, which is an EPA standard to run the application, and an Internet Protocol (IP) address.

3.3 Support Software

The FII application provides online help on how to use different functions available in FII, such as how to add and maintain program office facilities, and how to perform manual resolution. FII application also provides a data dictionary and metadata references at every level of the FII application.

4.0 SOFTWARE PRODUCT DESCRIPTION

4.1 Data Requirements

The FII application will support the data elements that are identified by FII and proposed by the One Stop Reporting Program Initiative. The FII data requirements are captured in a logical data model, developed using the Oracle Designer/2000 Computer Aided Software Engineering (CASE) tool. Appendix A presents the Data Definition Language (DDL).

The FII application will capture date fields through Change File Processing and store all date fields with a four digit year to support Year 2000 compliance.

4.2 Interface Processes

The FII application interface, as shown in Exhibit 1, includes: Envirofacts program office system facility data, state and non-Envirofacts program office system facility data, data maintenance, and LRT data. Exhibit 1 presents the Envirofacts Data Flow as described in the following sections. Section 4.3.7.1 Resolution Process describes the Change File Processing or the Envirofacts data refresh procedure that will be used to delete, update, or insert data to the automated resolution process as described in Section 4.3.7.2. These processes provides the facility data to the FII application resident on the Intranet. Other Envirofacts change file processes will continue to provide scientific data to Envirofacts resident on the Intranet and Internet. Nightly updates will occur from the FII application resident on the Intranet to FII data in Envirofacts.

Data Stewards will provide user registration support, manual on-line data maintenance and resolution, and processing discrepancies and feedback.

4.2.1 Envirofacts Program Office Systems

The Envirofacts Change File Processing will capture changes to the program office data as scheduled; these changes will be incorporated into the FII application database through the automated resolution process. Facility data files that will be processed through a resolution process include: AIRS/AFS, BRS, CERCLIS 3, PCS, RCRIS, TRIS, and SDWIS.

4.2.2 States and Non-Envirofacts Program Office System Facility Data

External facility data file extracts shall be captured from sources outside the Envirofacts Warehouse, including program office system facility data and State facility data. Facility data extract files from states shall be obtained in a schedule from all One Stop Reporting states that maintain central facility data systems. Non-Envirofacts EPA program office system facility-based data extract files shall be obtained from EPA program office systems for FFIS, SSTS, NCDB,

PADS, and State data. It is anticipated that EPA will make these files available on at least a semi-annual basis.

The FII application shall support DOCKET, which carries data on legal cases and other program office data where a many-to-many relationship exists between facilities and cases.
Non-Envirofacts EPA program office systems currently in FINDS that will not be included in the FII application are the Chemicals in Commerce Information System (CICIS), Contractor List, and Criminal Docket.

4.2.3 Data Maintenance

The FII application shall provide an interface, through Web pages, to capture and update facility data from headquarters representatives, EPA Regional and State Data Stewards, and authorized program office system Data Stewards (e.g., PADS, CERCLIS, and DOCKET).

- The FII application shall support data maintenance of a Complex Facility (e.g., airport, university, military base), Single Facility (e.g., dry cleaners, service station), and provide an index or pointer to the feature of a facility (e.g., pipe, stack), which is detailed in program office system data.

- When the FII application presents a data search option the user may choose a course of action as described in Section 4.3.5 Facility Search Components.

- The FII application will automatically capture the history of system transactions.

- The FII application provides a comment field to enable the user to manually enter appropriate information for a program office facility record.

- The FII application will use existing links AFINDS Numbers@ from the FINDS mainframe to populate Facility_UIN. The FII application will not generate AFINDS Numbers@ after the full implementation of FII in October.

4.2.4 Dun and Bradstreet Data

The D&B database will be implemented in Envirofacts on the EPA Intranet, where access will be restricted. The system will be accessible through Envirofacts Queries, but not as part of the FII application. EPA staff and designated contractor staff only will have complete access to D&B corporate information.

4.2.5 Locational Reference Tables

The LRT will provide latitude, longitude, and related metadata for facilities. LRT is being re-designed to store latitude/longitude and related (locational) data supplied by program systems, regional offices, and states which will be included in the FII application in Envirofacts. LRT will continue to process data only via batch transactions. FII will contain all LRT non-Spatial Data Option (SDO) tables and columns. LRT will process locational data via batch and online transactions within FII application. The batch transactions will process data supplied from any source including program systems, regional offices, and contractors, where the supplied data conforms to the LRT file format. Data that does not conform to the LRT file format will be rejected during the Envirofacts Change File Processing and returned to the data source.

Locational data will be compared to latitude-longitude values determined from the facility data corresponding to the location of the program system entity. Results of comparisons between locational data to the County and ZIP Code and provided measurement accuracy values will determine preferred sets of locational data for a program system entity.

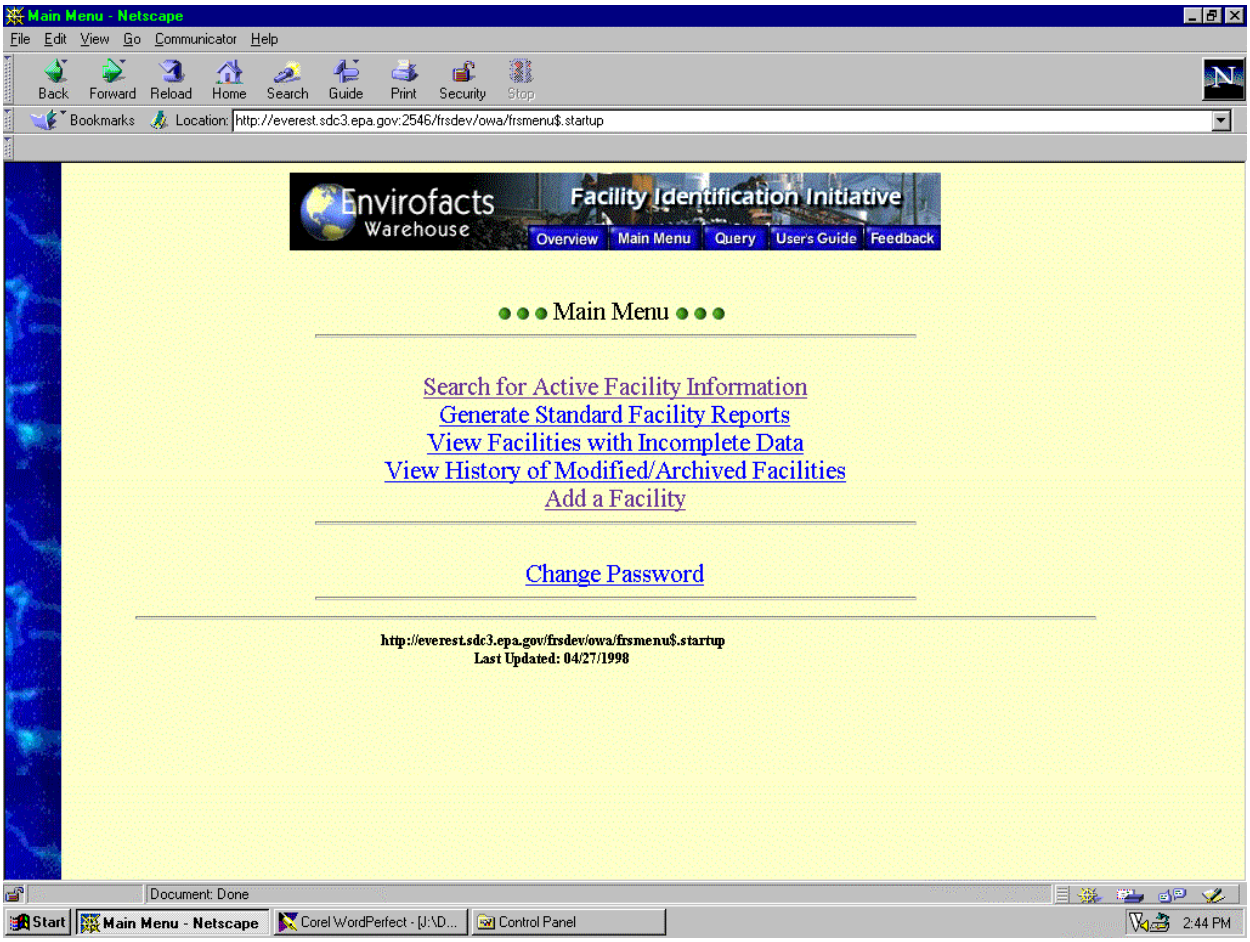
4.3 Functional Components

The FII application provides an interface to support program facilities, organizations, contacts, mailing addresses, SIC Codes and NAICS Codes, user administration, and latitude/longitude data. In addition, the FII application provides search, reporting capability, and discrepancy processing.

To provide tracking of information about facilities and affiliated organizations, a unique identifier will be assigned to each organization, contact, and mailing address.

4.3.1 Facility Maintenance

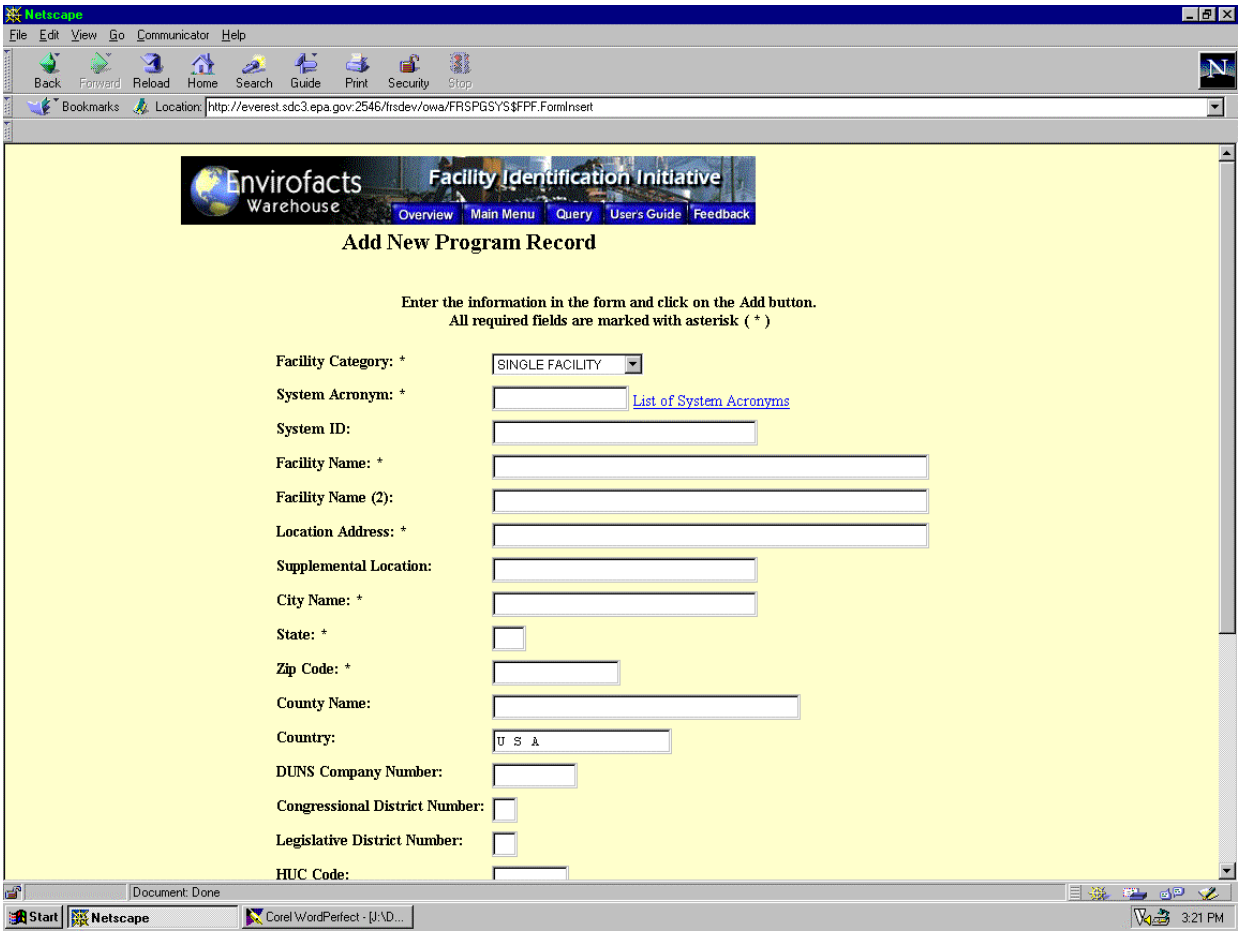
The FII application provides data maintenance user capabilities as shown in Exhibit 2, to search for active facility information, generate standard facility reports, view facilities with incomplete data, view history of modified/archived facilities, add a facility, and change password.



4.3.1.1 Add A Facility

The FII application provides an interface to register new facilities. As shown in Exhibit 3 some data elements are required and must be entered in order to register a facility in FII. This interface performs an automated search of the FII database using the information entered for the facility to make sure that the facility being added does not exist. If a similar facility is being monitored by

other program systems this interface will display a candidate list of facilities with the following information: Facility UIN, Facility Name, Location Address, Program System ID, and Program System Acronym. Users can link the selected program record(s) to the existing facilities or add as a new facility.



In the FII application the Facility UIN will be generated for two different types of Agency systems, as follows:

- Agency program systems that provide facility data for resolution through the Envirofacts refresh process as of October 1998, such as: TRIS, RCRIS, PCS, AIRS/AFS, CERCLIS 3, NCDB, SSTS, FFIS, PADS, STATE, Underground Injection Control (UIC), BRS, SDWIS. Reference Section 4.3.7.1 Resolution Process for details of this process.

- Agency systems such as DOCKET that are only interested in the Facility UIN generated by the FII application.

For Agency program systems that provide facility data for resolution through the Envirofacts refresh process as of October 1998, the following rules will be applied:

- If the System ID and Acronym are provided, the FII application generates the Facility UIN using this information and assigns the value of ›PENDING: to the Program Facility Status. PENDING status indicates that no program system is currently monitoring the facility.

- If the System ID is not provided, the FII application will populate this field with the generated Facility UIN (e.g., CERCLIS currently uses the FINDS Number as their program system ID) and assigns the value of ›PENDING: to the Program Facility Status.

For Agency program systems such as DOCKET that are only interested in the Facility UIN generated by the FII application, the following rules will be applied when a new Facility UIN is generated:

- The FII application will concatenate the Docket Case Number and a system-generated sequence number (to resolve the many to many relationship of DOCKET cases and facilities) and assign this concatenated value to the System ID, and assign the value of ›DOCKET: to the Acronym.

- Program Facility Status will be set to ›ACTIVE:. This status indicates that at least on program system is monitoring the facility.

Note: Facilities assigned APending@ value for more than 90 days will be deleted from FII and will be archived in the history file.

- Users can select and link to existing records from the list of the search result that matches the description of the new program record, otherwise the user can add the record as a new program record.

- Add New Program Record will prevent the addition of duplicate program records by examining the existence of the program record using the program system ID and acronym.
- Add New Program Record will examine the validity of data entered using the look-up tables to maintain referential integrity.

- Add New Program Record will populate parsed address, standardize name, and assign data quality to the program facility record.

- For new program records entered through the interface, users will be able to select the facility category of ›Single: or ›Complex: and enter any additional program facility data.

- A facility that is uniquely identified by name and location will be assigned a facility UIN, which is generated when the facility is registered in FII. The facility UIN will be the identifier used to establish linkages throughout the FII application. Add New Program Record will maintain the parent/child relationship (i.e. storing new facilities in both the FRS_FACILITY and FRS_PROGRAM_FACILITY tables).

- The facility UIN has 12 digits, the last of which is a check digit. UIN values will be generated using the algorithm described in Appendix D in *Facility Location and Identification Data Content Standard*, Federal Geographic Data Committee (FGDC), Public Review Draft, December 1997.

4.3.1.2 Update Facility

Facilities manually registered through FII can be updated using the FII application Update Program Record Web page as long as program systems have not reported their facility data through the Envirofacts Change File Processing. If the program system ID and acronym are known, the user can enter this information to retrieve the program record, or a more general search can be performed to identify the program record to be updated. The FII application Update Program Record Web page will be similar to the Add New Program Record Web page with the exception that the following fields will not be modifiable; Facility UIN, Program System ID and Acronym, Data Quality Code, Standardized Name, State, Region, and any other system generated data.

- Update Program Record will examine the validity of data entered using the look-up tables to maintain referential integrity.

- Update Program Record will populate parsed address, standardize name, and any other system generated field if necessary.

4.3.1.3 Archive Facility

Program records can be archived and stored in the history table. Facilities that were, but are not currently, associated with any program office system record will be assigned the status of "Inactive" and will be moved to the history file. Archive Program Record should maintain the parent/child relationship in the FII tables. In addition facilities registered in FII can be archived as long as program systems have not reported their facility data Apending facilities@. Pending facilities more than 90 days will automatically be archived.

4.3.2 Core FII Data Maintenance

The FII application allows data stewards to update core data elements such as Contacts, Organization, Mailing Address, and SIC and NAICS Codes associated with a facility that is being registered in FII. See Sections 6.0 through 6.6 Future Design Requirements.

4.3.3 Relink/Move Facilities

The FII application Relink and Move function allow facilities that are linked incorrectly or considered to be a duplicate facility (i.e. identical facilities having two different UINs) to be relinked or moved to a different facility.

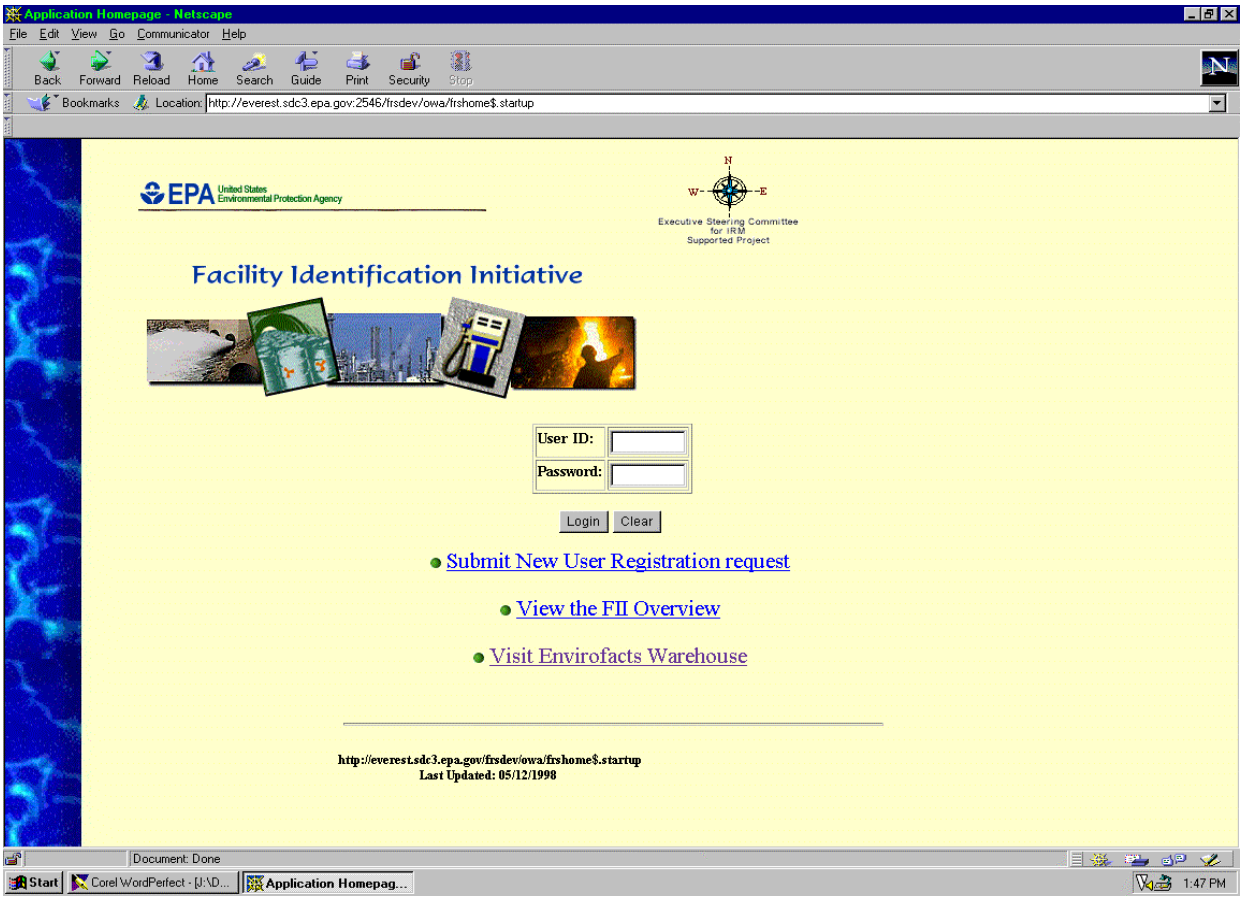
- For an incorrect facility link, the move function enables a program record identified by a UIN to be changed to an existing UIN or to a new UIN.

- For a duplicate facility, the move all function enables the user to move *all* the program records associated with each of the two UINs under the correct or desired UIN. The duplicate UIN is automatically archived as a result of the move *all* function.

For both instances, the incorrect facility link and the duplicate facility, the move function copies the program facility record being moved to the history table. The history record captures the user comments (i.e., the reason for move) and the facility UINs prior to and after the move in order to provide a trail for tracking the UIN. In addition, the facility UIN of the moved program system record is changed to the new UIN.

4.3.4 User Administration

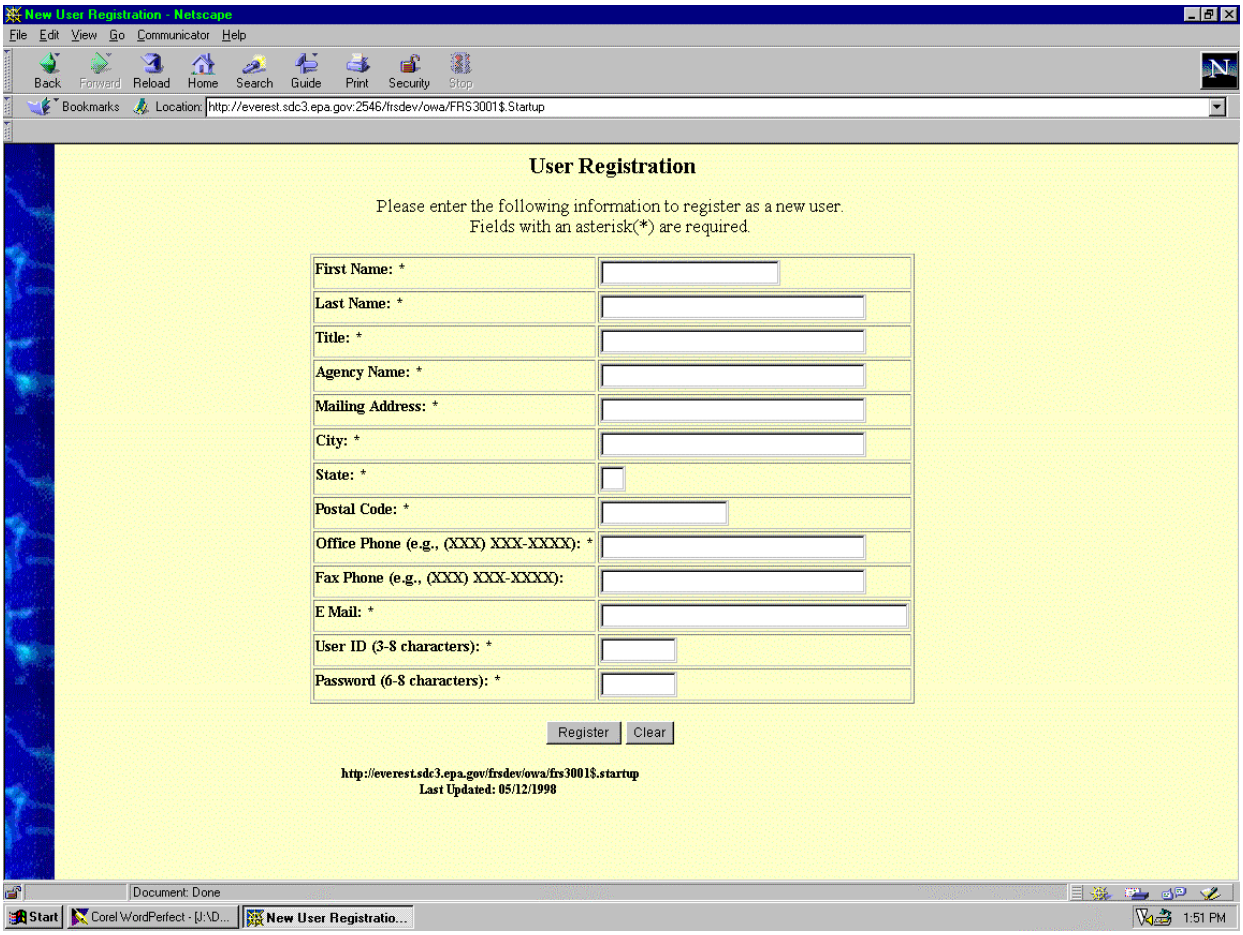
Access to the FII application is restricted to registered FII users. As shown in Exhibit 4, in order to log-on into the FII application users must have a valid user ID and password. The FII application provides an interface for new user registration and user activation and maintenance to handle user administration.



Any EPA Intranet user can submit a registration form by entering the required information and identifying the access level needed such as region, state and program system. Only Data Stewards can verify user information and activate a user so the user may log- on.

4.3.4.1 New User Registration

The FII application, as shown in Exhibit 5, provides an interface for a new user to register. To register, a user must provide the following information: name, company name, mailing address, city, ZIP Code, state, title, phone number, fax number, userid and password, and E-mail address. A user can enter a userid (i.e., a minimum of 3 characters and a maximum of 8 characters) and a password (i.e., a minimum of 6 characters and a maximum of 8 characters). Then the user will submit a request for update access to program system records in the geographic and program office system specified on the access level request form.



The information must be verified by primary Data Stewards and the user will be notified when the entered userid and password is activated through the E-mail address provided during new user registration.

4.3.4.2 User Activation/Maintenance

FII will provide an interface so that the primary Data Stewards can identify individuals requesting access. This interface should allow primary Data Stewards to view and update the registration tables once users have registered. The interface will also allow individual users to change passwords or update contact information.

- The FII application will provide an interface to primary Data Stewards to enable/disable users, reset passwords, change user access, and delete obsolete users.

- The FII application will allow primary Data Stewards to assign users to categories and limit data administration or data access levels (e.g., enable data entry for DOCKET users) by region and/or state and program office, or other basis.

- When a user has been activated or de-activated, the user will be notified by the E-mail address provided during new user registration.

4.3.5 Facility Search Components

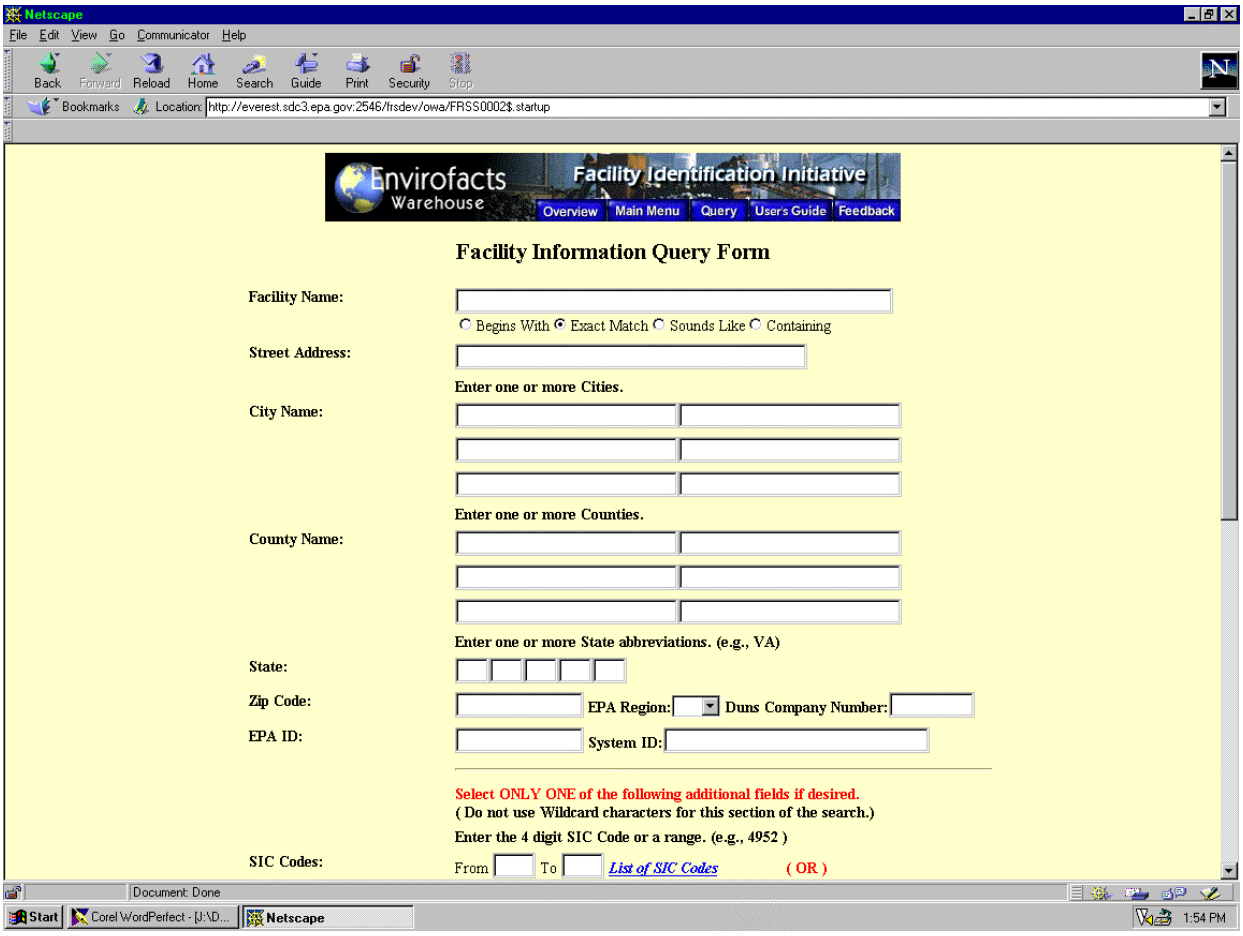
The facility search interface as shown in Exhibit 6 allows users to search the FII database for program facility information. Facility searches can be conducted using multiple search criteria such as: search using geographic information, facility name, contact or organization information, SIC or NAICS Codes. When searching for information on a specific facility, single criteria search can be performed using the facility UIN, DUNS number, or System ID and Acronym as the search criteria. The facility search result will display the facility UIN, program system acronym and ID, program facility name, and the location of the program facility.

- Single criteria searches will be limited to:
  - EPA ID.
  - DUNS Number.
  - System ID and Acronym.

- Multiple criteria searches, including:
  - States in combination with cities or counties.
  - Program office system identifier in combination with program office system acronym.
  - Region in combination with states and cities or counties.
  - ZIP Code in combination with facility name.
  - Street address in combination with state or ZIP Code.
  - Street address in combination with city or state or ZIP Code.
  - City or county in combination with state.
  - City or county in combination with state and facility name.
  - Facility name in combination with state and contact=s last name.
  - Facility name in combination with state and organization name.

- The search interface provides users with a list of permitted values for applicable fields such as state, SIC and NAICS Codes, and EPA regions.

- The FII search interface look-up table listing counties, cities, and ZIP Code associated with a state will be part of the future requirements.



- Facility name searches provide four matching options: Begins With, Exact Name, Sounds Like Name, and Containing Characters.

- Searches that include state, county, and city allow up to five states and six cities or counties.

- The facility search result provides a list of all program office facility records where the search criteria is satisfied, organized by program facility name. Users can select a program system facility record from the list to view the facility detail information and the affiliated data (i.e, contact, organization, SIC/NAICS Codes, latitude/longitude, and mailing address).

- The search interface provides the capability to search for facilities being monitored by a specific program office, or multiple program office; the default is "All."

- UIN values will be displayed as Annnn-nnnn-nnnn@ where the first set of digits are zero-filled to display twelve digits, and the twelfth digit is the generated check digit.

4.3.6 Reporting Capability

The FII application provides an interface to replicate FINDS reports such as Standard Facility Reports, System Administration Reports, and Summary Statistical Reports. The reports include:

- Facility Reports.
  - Facility Summary Report.
  - Facility Detail Report.
  - Facility Cross Reference Report.

- System Administration Reports.
  - Year-to-Date User Information.
  - User Information.
  - Monthly Activity Reports.
  - Merge Notification Report.
  - Resolution Status Report.
  - Resolution Activity Report.
  - Delete/Merge Notices.
  - Analyst Activity Report.
  - Facility Count Report.
  - Audit Trail Report.
  - Activity Report.

- Linkage Quality Report.

- Summary Statistic Reports.
  - All regions.
  - One region.
  - One state.
  - One city/state.
  - One county/state.
  - One zip code.

4.3.7 Resolution of State and Program Office System Facility Data

The FII application data resolution is the set of processes (both Data Steward-guided and automated) that link state and program office extract data to existing FII facility records. The data loading or refresh procedures are considered necessary prerequisites to any resolution

activity. All new program system and state records will be assigned UINs and will be stored in FII, regardless of the completeness and accuracy of the data.

The FII application performs a similar but improved data resolution process as the production mainframe FINDS Version 4.2.11, which includes data searches to determine potential linkages, and construction of program office system record lists that are potential linkage candidates. Data will be maintained through both manual and automated resolution processes. The automated process includes manual verification where automated processes cannot complete data maintenance transactions.

4.3.7.1 Resolution Process

After the initial load of state and program system facility data, which includes pulling FINDS program system records and the linkages for the active facilities in FINDS, the Envirofacts data refresh procedure will be used to maintain the FII facility data. This process uses the Change File Processing which consists of three data types, each of which has a corresponding file type: an Insert File which contains new data, a Delete File which contains data that has been deleted, and an Update File which contains data that has been changed. Data contained in these files are applied to the corresponding resolution tables for each program system, so that the data for each table is concurrent with the most recent extract that resides on the EPA IBM mainframe computer.

The Envirofacts Change File Processing and the FII resolution subsystem is a collection of procedures that are accessed manually; they reside on the EPA IBM mainframe and on the UNIX server resident at Research Triangle Park (RTP). Envirofacts will provide change files for all facility based program systems that are currently in the FINDS database.

- The existing Envirofacts extract programs will be modified to generate change files for the program facility data in the format of the FII resolution tables. Other change files that currently are being generated for Envirofacts (i.e., scientific data) will continue to be generated and maintained for use in Envirofacts.

- The formatting of the program system facility data to the resolution tables should include derivation of State_Code, State_Name, County_Name, and EPA_Region_Code.

- Some states (i.e., ›IL‹ and ›KY‹) that maintain their state-specific facility data through FINDS on-line application, may continue to maintain and clean up their state specific facility data through the FII application.

- New extract programs will be developed to extract SDWIS and BRS data and generate change files in the format of the FII resolution tables.

- The existing pre-formatted program system extract files that are currently obtained by FINDS from NCDB, PADS, SSTS, FFIS, STATE, and UIC will be formatted to generate change files in the format of the FII resolution tables.

- The generated change files for each program system must have only one Insert, one Update, and one Delete file for each of the resolution tables; each program system will contain a maximum of 12 change files for program facility. Insert file examples include:

  PSDB.FII.PCS.INSERT.FACILITY.<month>
  PSDB.FII.PCS.INSERT.CONTACT.<month>
  PSDB.FII.PCS.INSERT.ORG.<month>
  PSDB.FII.PCS.INSERT.SIC.<month>

- Prior to applying the Inserts and Updates to the FII database, FII back-end processing will populate parsed address fields, soundex fields and the standardized name.

4.3.7.2 Automated Resolution

The FII application automated resolution is a back-end processing (i.e., a set of PL/SQL routines) that will use the data in the resolution tables and apply the data to the corresponding FII tables. This process first applies the delete files to the FII database. In this process the program system ID and program system Acronym from the resolution tables are used to archive the program system records from the FII database. A copy of this record will be stored in the corresponding history table and the status will be changed to inactive.

The FII automated resolution will use the following logic in reconciling new program system records identified in the Envirofacts Change File Processing:

- The automated resolution will compare the facility name and address in the resolution table to the FII database, if potential candidates found and the System ID and Acronym are the same that record will be updated in the FII database with the information from the resolution table and a copy of the old record will be placed into the history table prior to update. If the System ID and Acronym doesn=t match but facility name and address matches, the new record will be assigned the same EPA ID. If the name and address do not match, then the automated resolution will assign a new EPA ID and flags this record for manual linkage. The automated resolution will change the Program record=s Status from ›PENDING= to ›ACTIVE=.

- The potential candidate list is based on the weighting algorithm score which is based on the number of data elements matched with a 75% or more score. The automated resolution will change the program status from ›PENDING= to ›ACTIVE=.

- The automated resolution will use the System ID and the Acronym from the resolution tables for records flagged as update and the corresponding record in the database. A copy of the original record will be stored in the history table.

- FII identifies and maintains a "virtual" master record that will be the preferred state or program office system record for a facility. The priority order for identification of the virtual master record is as follows:

    1. State (i.e., Facility identified by the state).
    2. TRIS.
    3. RCRIS - Treatment, Storage, and Disposal.
    4. PCS Major.
    5. AIRS Major.
    4. Superfund NPL (National Priority List (NPL) facility as identified by CERCLIS).
    5. RCRIS - Large Quantity Generator/Small Quantity Generator.
    6. PCS Minor.
    6. AIRS Minor.
    7. CERCLIS (Any facility not identified on the NPL by CERCLIS).

4.3.7.3 Manual Resolution

States and data stewards will use the manual resolution to clean up and improve their facility linkage quality. During this process the program facility records that are flagged as manual linkage (i.e., AM@) will be compared with other program system records and a list of potential candidates will be provided to allow states or Data Stewards to visually review and decide the correct linkage. The candidate list will be ranked based on the occurrence of similar locational data matches with the records that are flagged for manual resolution.

- Searches will be conducted to retrieve a list of potential candidates from the active program office facility tables and the history tables.

- An interface will be provided to link new program facilities to existing facilities in FII.

- Manual resolution will reset the processing status flag once the user has confirmed the linkage.

- Manual resolution allows program records or facilities that are linked incorrectly to be re-assigned (i.e., relinked or moved).

- The resolution tables must be truncated prior to loading of the next set of change files.

4.3.7.4 Data Quality Code and Feedback Processing

The data quality code process is initiated after the automated resolution completes processing the program system records and establishing proper linkages. The data quality code is assigned based on the completeness, consistency, and validity of the facility data (e.g. facility name, location address, city, state, county and ZIP Code). A copy of the program facility records with a data quality code that indicates missing, invalid, or incomplete will be stored in the feedback tables for processing. The following assumptions will be made in assigning the data quality code:

- If the facility name is null/missing, the record is not processed any further and is marked with an invalid data quality code.

- If the state is missing or invalid, the record is not processed and is marked with an invalid data quality code.

- The records are processed if they contain facility name and valid state code and any combination of city or county or postal code.

- The assignment of the data quality code will not use the cross reference check for the facility name and street address fields against the United State Postal Services (USPS) street address data.

- A validation check will occur on the facility name and street address fields against an Aanomalies/abnormals@ table (i.e., checking for occurrences of words such as AMISSING@ or AUNKNOWN@ in either facility name or street address field).

- A cross reference check will occur for certain combinations of the state, postal code, city and county fields against the USPS data.

- Data sources (e.g., program offices, states) will be notified of facility records with data quality codes that indicate missing or invalid data.

Program system records with missing or invalid facility name, missing or invalid street address, missing or invalid state code will automatically be placed in the FRS_FEEDBACK table.

The FII application provides an interface to AView Facilities with Incomplete Data@. This interface allows users to search the FRS_PROGRAM_FACILITY table based on the acronym, state, EPA region and the data quality code. From this interface data stewards can generate reports that are down-loadable or view the search result on the Web browser. This interface also displays how many times a program record with invalid data was placed into the feedback tables. Using this interface data stewards can place a copy of the program record into the feedback table. The feedback files contain program office data that is considered of poor or questionable data quality as defined by the data quality code.

The FRS_FEEDBACK table specifies missing or inconsistent information about a program system=s main data (i.e., facility name, location address, city, county, state, zip), and information about when a record is put in feedback and whether it has been sent back to its respective program system office for correction. FII will provide an interface to review and process records stored in the feedback table.

4.4 Data Validation

The FII application provides validation and edit checks to validate data entered on the maintenance Web pages. The FII application contains a repository of look-up information used to validate information. The look-up tables are used to validate locational information such as State Code, Zip Code, County Code, and Name. The FII application will also maintain a look-up table that contains the following:

- Data Quality Codes identified by code_type of >DATAQUALITYCODE=.
- Reason Code identified by code_type >RSN CODE=.
- SIC/NAICS Codes identified by code_type >SIC CODE=/ >NAICS CODE=.
- Hydrologic Unit Code (HUC) identified by code_type >HUC CODE=.
- Affiliation Type identified by code_type >AFF CODE=.
- User Category identified by code_type of >USER CATEGORY=.

Data element validation methods are as follows:

- The facility UIN will be validated based on the check digit.

- Country, state, county, ZIP Code, city name, facility type, and SIC Codes will be validated as existing in the standard domains provided as look-up tables.

- Address elements will be validated for consistency across data fields (e.g., validating that a county is located in the state associated with the record).

4.5 Discrepancy Reporting and Processing

The general public can access and review the FII application data through Envirofacts. Upon reviewing the program office data, if they identify discrepancies (e.g., inconsistencies) in the program office data they will be able to submit comments to the responsible parties through an interface provided in Envirofacts. The option to submit a discrepancy will be available at the Envirofacts Web pages where the detailed information about a program office record is displayed. Envirofacts will capture and store discrepancies in different FII tables based on the type of discrepancy (i.e., Contact, Organization, Facility, SIC or NAICS Codes).

In order to process discrepancies in the FII application, the Envirofacts discrepancy interface should include a comment area to supplement changes with commentary text provided. Envirofacts must capture as much information as possible regarding the reported discrepancies. The reported discrepancies that contains user recommended values for each field must be stored in the corresponding FII discrepancy tables. In order to process discrepancies in FII and send a correspondence to inform the individual that reported the discrepancy, some information such as: individual's name, organization, phone number, E-mail address will be required.

- Program system facility data-related discrepancies and the user recommended values must be stored in the FRS_PGM_FACILITY_DSCRP and at minimum the following data elements must be populated:

  - FACILITY_UIN
  - PGM_SYS_ACRNM
  - PGM_SYS_ID
  - STATE_CODE
  - REPORTER_COMMENT
  - TIMESTAMP

- Program system organization data discrepancies must be stored in the FRS_ORGANIZATION_DSCRP and at minimum the following data elements must be populated:

  - ORGANIZATION_UIN
  - PGM_SYS_ACRNM
  - PGM_SYS_ID
  - AFFILIATION_TYPE
  - REPORTER_COMMENT
  - TIMESTAMP

- Program system contact data discrepancies must be stored in the FRS_CONTACT_DSCRP and at minimum the following data elements must be populated:

  - CONTACT_UIN
  - PGM_SYS_ACRNM
  - PGM_SYS_ID
  - AFFILIATION_TYPE
  - REPORTER_COMMENT
  - TIMESTAMP

- Program system SIC and NAICS Code data discrepancies must be stored in the FRS_SIC_NAIC_DSCRP and at minimum the following data elements must be populated:

  - SIC_CODE
  - NAIC_CODE
  - PGM_SYS_ACRNM
  - PGM_SYS_ID
  - REPORTER_COMMENT
  - TIMESTAMP

The FII application will provide an interface to review and process discrepancies. Data Stewards can view, generate reports, and update and monitoring status of each discrepancy through this interface.

4.6 History Interface

The FII application provides an interface to the history tables to provide integrated information on changes to the FII database. Changes to the database due to automated resolution, manual resolution, facility relink, or move processing will be captured in the appropriate history tables.

The FII application will maintain Ahistory@ information identifying all of the changes to the program facility data. When changes are made to the facility data (e.g. facility name, organization, or mailing address) a history record will be created with an exact copy of the previous record, a comment as to the change made, the author of the change which will be a standard acronym if the change was due to an automated process, and the date and time of the change. The recorded history information will enable the restoration of the unchanged information, to provide the ability to maintain an audit trail of changes. FII will not maintain a history of contact changes.

5.0 ADAPTATION REQUIREMENTS

The adaptation requirements will include security and privacy, design constraints, data integration, and performance.

5.1 Security and Privacy

The FII application will keep track of a registered set of users. Database and application access will be restricted based on user type. Users will be registered through the front-end application, at which time users will request the type and level of access needed. The FII application will not enable registered users to log-on with their registered name until official documentation has been received from the user's organization, authenticating the level of privilege requested. Other federal agencies and the general public will access the FII data through the Envirofacts database. The system will provide security features that define access limits for various user categories.

- EPA regions and states will have registered Data Stewards. A Data Steward will be responsible for entry, deletion, creation, and update of registry data (i.e., program office facility data, contact and organization, mailing address, SIC/NAICS information) to which access is categorized by program office system and state or by program office system and region.

- All Data Stewards will register, through the FII interface, to receive a protected user ID and password, and to request data access privileges.

- Each region/state will have primary and alternate Data Stewards responsible for communication and authorization.

- The region/state Primary Facility Identification Data Steward will be responsible for user authorization for the assigned region/state. These responsibilities include the creation, modification, and update of the user profile structure, and performing related administration capabilities.

- The region/state Primary Facility Identification Data Steward will be responsible for maintaining accurate and up-to-date E-mail addresses and authorization listing of Data Stewards within their geographic location.

- Data Stewards will be granted a range of system privileges by the Primary Facility Identification Data Steward in the State or Regional Office.

- In states with Data Stewards, the State Data Stewards will have ultimate responsibilities within their authorized program office systems.

- Regional Data Stewards will have responsibility and authority in those geographic areas

where no State Data Steward is authorized.

- A small group of supervisory users or Headquarters Data Stewards will exist who retain access to the entire FII application and database. A Headquarters Data Steward will perform user authorization for all Region/State Primary Facility Identification Data Stewards, and possess all administration capabilities. A Headquarters Data Steward will be able to perform all functions of a Regional/State Data Steward.

5.2 Design Constraints

The FII application is being developed using Oracle Designer 2000 to generate individual modules. In order to meet the requirements, the generated modules require additional customized code. The customized code will need to be reviewed for updates as necessary with each subsequent release in Envirofacts.

5.3 Data Integration

- Facilities to be converted to FII from FINDS will be assigned the Asingle facility@ category. Some of the SDWIS public water systems may be assigned the Acomplex facility@ category as long as these water systems follow the FII business rules defined for a complex facility, and the component SDWIS facilities will be assigned the Asingle facility@ category.

- As the FII application becomes more fully developed in the future, other "complex facility" types will be identified (e.g., military installations and airport installations), and some features (e.g., CERCLIS waste sites and STORET monitoring stations) might be identified as "feature."

- The FII application will support program office systems (e.g., DOCKET) where a many-to-many relationship exists between the facility and system identifier.

5.4 Performance

The FII application will ensure that interactive search results are returned in 3 to 5 seconds. The time will depend upon network traffic, hardware speed, and user-network interface. In general, complex searches and searches with multiple selection criteria and complicated reporting will take longer to complete.

6.0 FUTURE DESIGN REQUIREMENTS

The FII application Version 1.0 will be designed to manage information and provide linkages across a broad variety of facilities, including complex facilities (e.g., installations and networks), and features that are sub-entities of facilities (e.g., smoke stacks and discharge pipes). Future capabilities may include features that are not facility-related, but are of interest to EPA (e.g., hazardous waste sites and monitoring stations), and permitted sites where activities are planned but not currently established. The following requirements will be reviewed for implementation after September 30, 1998:

- Every facility will be associated with a category name that indicates its size and complexity. Manual addition of complex facilities in FII will be implemented after September.

- A new identifier will be created when the type of facility and location changes (including changes that increase or decrease the size of the property on which the facility is located).

- Changes to the facility type and generation of a new facility UIN.

- Generation and assignment of location UIN, which would enable tracking the changes at a location.

- The FII application will assign each location a UIN. The UIN will be generated using the same algorithm as is used to generate UINs for facilities.

- Each location may be associated with more than one facility.

- A facility will always be associated with exactly one location.

- When the last facility at a location is deleted, the location record is moved to location history (records in history are never deleted).

- When data about a location are changed and that data change does not indicate a change to the place identified (e.g., when the street name is changed or the USPS changes the ZIP Code), the location record is copied to the history file; the location UIN does not change.

- The FII application will maintain facility data with an interface to update and delete an interface to add, update, delete organization, contact, and SIC and NAICS Code.

- The FII search interface look-up table listing counties, cities, and ZIP Code associated with a state.

Sections 6.1 through Section 6.6 are additional future requirements that will be implemented after September, 1998.

6.1 Update/Archive Organizations

- The organization search allows users to search for organization records using Organization Name, DUNS Company Number, or the combination of both.
- Users can use partial name searches by entering partial name followed by % (i.e., stan%).
- From the organization search results users can select the organization record to be updated or archived.
- The update organization will store a copy of the organization record into the history table prior to the update.
- Organization records archived will be moved to the history table.
- When the organization information for a program record is updated and the same organization is affiliated with other program facilities, their organization information will be updated.

6.2 Maintain Organization Affiliations

- The Maintain Organization interface allows users to change the affiliation of an organization (i.e., from ›OWNER‹ to ›OPERATOR‹).
- This interface allows users to remove/archive organization affiliations from a program facility.
- When the last association with an organization is removed, the organization record will be kept for a period of six months prior to being archived.
- The Maintain Organization interface allows users to add a new organization and affiliate it with a program facility. When adding new organization records users are required to enter Name, Mailing Address, State, and Affiliation Type.
- The FII application Maintain Affiliation will provide a link to update/archive organizations information.

6.3 Update/Archive Contacts

- The contact search allows users to search for contact records using Contact Name.
- Users can use partial name searches by entering partial name followed by % (i.e., brown%).
- From the contact search results the user can select the contact record to be updated or archived.
- When contact information for a program record is updated and the same contact is affiliated with other program records, the contact information will be updated too.

6.4 Maintain Contact Affiliations

- The maintain contact affiliation Web page allows users to change the affiliation of the contact to a program system (i.e., from ›OWNER‹ to ›OPERATOR‹).
- Users are provided the capability to add a new contact record and affiliate it with a program record. When adding new contact records, users are required to enter Name, Mailing Address, State, and Affiliation Type.
- Users are provided the capability to update contact information for a program record.
- Users are provided the capability to remove/archive contact affiliations from a program record.
- A link will be provided to update/archive contact information from the maintain contact affiliation Web page.

6.5 Maintain SIC Codes

- Users are provided the capability to add new SIC Codes or archive existing SIC Codes associated with a program facility. Users can select SIC Code from the list of SIC Codes and their descriptions that are available as a look-up table.
- Users are provided the capability to indicate if a SIC Code associated with a program record is the primary SIC Code or not.

6.6 Maintain NAICS Codes

- Users are provided the capability to add new NAICS Codes or archive existing NAICS Codes associated with a program facility. Users can select NAICS Code from the list of NAICS Codes and their descriptions that are available as a look-up table.

- Users are provided the capability to indicate if a NAICS Code associated with a program facility is the primary NAICS Code or not.

7.0 ERROR HANDLING REQUIREMENTS

- The FII application will capture and store all Oracle errors in the FII application error tables.

- The FII application will translate cryptic Oracle error messages and display standard FII error messages.. These error messages capture the userid and the module where the error occurred.

APPENDIX A

Physical Data Model
Data Definition Language (DDL)

```
CREATE TABLE FAC_LINKS (
  PARENT_FACILITY_UIN              VARCHAR2(12)      NOT NULL,
  CHILD_FACILITY_UIN               VARCHAR2(12)      NOT NULL,
  FLAG                             VARCHAR2(2)       NULL)
TABLESPACE D_FRS3
PCTFREE 10 PCTUSED 40
STORAGE(INITIAL 532480 NEXT 8192 PCTINCREASE 0)
/
CREATE TABLE FRS_ACCESS_REGISTRY (
  USER_NUM                         NUMBER(12,0)      NOT NULL,
  USER_ID                          VARCHAR2(15)      NOT NULL,
  EPA_REGION_CODE                  NUMBER(2,0)       NULL,
  STATE_CODE                       CHAR(2)           NULL,
  PGM_SYS_ACRNM                    VARCHAR2(15)      NULL,
  RECIPIENT_FLAG                   CHAR(1)           NOT NULL,
  PRIME_FLAG                       CHAR(1)           NULL)
TABLESPACE D_FRS3
PCTFREE 10 PCTUSED 40
STORAGE(INITIAL 532480 NEXT 8192 PCTINCREASE 0)
/
CREATE TABLE FRS_CODE_DESCRIPTION (
  CODE_TYPE                        VARCHAR2(20)      NOT NULL,
  CODE_VALUE                       VARCHAR2(25)      NOT NULL,
  CODE_DESCRIPTION                 VARCHAR2(120)     NOT NULL)
TABLESPACE D_FRS3
PCTFREE 10 PCTUSED 40
STORAGE(INITIAL 532480 NEXT 8192 PCTINCREASE 0)
/
CREATE TABLE FRS_CONTACT (
  CONTACT_UIN                      NUMBER(12,0)      NOT NULL,
  FULL_NAME                        VARCHAR2(50)      NULL,
  LAST_NAME                        VARCHAR2(30)      NOT NULL,
  SOUNDEX_LAST_NAME                VARCHAR2(4)       NULL,
  TITLE                            VARCHAR2(30)      NULL,
  EMAIL_ADDRESS                    VARCHAR2(120)     NULL,
  OFFICE_PHONE                     VARCHAR2(30)      NULL,
  HOME_PHONE                       VARCHAR2(30)      NULL,
  FAX_PHONE                        VARCHAR2(30)      NULL,
  MOBILE_PHONE                     VARCHAR2(30)      NULL,
  USER_ID                          VARCHAR2(15)      NOT NULL,
```

```
  SOURCE                                  VARCHAR2(10)      NOT NULL,
  TIMESTAMP                               DATE              NOT NULL,
  PGM_SYS_ACRNM                           VARCHAR2(15)      NULL)
TABLESPACE D_FRS3
PCTFREE 10 PCTUSED 40
STORAGE(INITIAL 13107200 NEXT 442368 PCTINCREASE 0)
/
CREATE TABLE FRS_CONTACT_AFFILIATION (
  CONTACT_UIN                             NUMBER(12,0)      NOT NULL,
  PGM_SYS_ID                              VARCHAR2(30)      NOT NULL,
  PGM_SYS_ACRNM                           VARCHAR2(15)      NOT NULL,
  MAIL_UIN                                NUMBER(12,0)      NULL,
  AFFILIATION_TYPE                        VARCHAR2(25)      NOT NULL,
  TIMESTAMP                               DATE              NOT NULL,
  USER_ID                                 VARCHAR2(15)      NOT NULL,
  SOURCE                                  VARCHAR2(10)      NOT NULL)
TABLESPACE D_FRS3
PCTFREE 10 PCTUSED 40
STORAGE(INITIAL 16424960 NEXT 499712 PCTINCREASE 0)
/
CREATE TABLE FRS_CONTACT_DSCRP (
  CONTACT_UIN                             NUMBER(12,0)      NOT NULL,
  FULL_NAME                               VARCHAR2(50)      NULL,
  LAST_NAME                               VARCHAR2(30)      NOT NULL,
  TITLE                                   VARCHAR2(30)      NULL,
  EMAIL_ADDRESS                           VARCHAR2(120)     NULL,
  PGM_SYS_ACRNM                           VARCHAR2(15)      NULL,
  PGM_SYS_ID                              VARCHAR2(30)      NULL,
  AFFILIATION_TYPE                        VARCHAR2(25)      NOT NULL,
  OFFICE_PHONE                            VARCHAR2(30)      NULL,
  HOME_PHONE                              VARCHAR2(30)      NULL,
  FAX_PHONE                               VARCHAR2(30)      NULL,
  MOBILE_PHONE                            VARCHAR2(30)      NULL,
  MAIL_UIN                                NUMBER(12,0)      NULL,
  DELIVERY_POINT                          VARCHAR2(50)      NULL,
  SUPPLEMENTAL_ADDRESS                    VARCHAR2(30)      NULL,
  CITY_NAME                               VARCHAR2(30)      NULL,
  STATE_CODE                              CHAR(2)           NULL,
  STATE_NAME                              VARCHAR2(35)      NULL,
  POSTAL_CODE                             VARCHAR2(14)      NULL,
  COUNTRY_NAME                      VARCHAR2(44)      NULL,
  REPORTER_USER_ID                        VARCHAR2(15)      NOT NULL,
```

```
  TIMESTAMP                                DATE              NOT NULL,
  REPORTER_COMMENT                         VARCHAR2(120)     NULL,
  RECIPIENT_USER_ID                        VARCHAR2(15)      NULL,
  NOTIFICATION_DATE                        DATE              NULL)
TABLESPACE D_FRS3
PCTFREE 10 PCTUSED 40
STORAGE(INITIAL 532480 NEXT 8192 PCTINCREASE 0)
/
CREATE TABLE FRS_DOCKET_FACILITY (
  PGM_SYS_ID                               VARCHAR2(30)      NOT NULL,
  PGM_SYS_ACRNM                            VARCHAR2(15)      NOT NULL,
  DOCKET_CASE_NUMBER                       VARCHAR2(30)      NOT NULL)
TABLESPACE D_FRS3
PCTFREE 10 PCTUSED 40
STORAGE(INITIAL 532480 NEXT 8192 PCTINCREASE 0)
/
CREATE TABLE FRS_ERROR (
  ERROR_TEXT                               VARCHAR2(160)     NOT NULL,
  ERROR_DATE                               DATE              NOT NULL)
TABLESPACE D_FRS3
PCTFREE 10 PCTUSED 40
STORAGE(INITIAL 532480 NEXT 8192 PCTINCREASE 0)
/
CREATE TABLE FRS_ERROR_MSGS (
  ERROR_MSG_NUM                            NUMBER(12,0)      NOT NULL,
  ERROR_MSG_TXT                      VARCHAR2(240)     NOT NULL)
TABLESPACE D_FRS3
PCTFREE 10 PCTUSED 40
STORAGE(INITIAL 532480 NEXT 8192 PCTINCREASE 0)
/
CREATE TABLE FRS_FACILITY (
  FACILITY_UIN                             VARCHAR2(12)      NOT NULL,
  FINDS_ID                                 VARCHAR2(12)      NULL,
  FACILITY_CATEGORY                        VARCHAR2(30)      NOT NULL,
  MONITORING_STATUS                        VARCHAR2(20)      NOT NULL,
  ARCHIVE_DATE                             DATE              NULL,
  USER_ID                                  VARCHAR2(15)      NOT NULL,
  TIMESTAMP                                DATE              NOT NULL,
  SOURCE                                   VARCHAR2(10)      NOT NULL,
  USER_COMMENT                             VARCHAR2(240)     NULL)
TABLESPACE D_FRS3
PCTFREE 10 PCTUSED 40
```

```
STORAGE(INITIAL 46612480 NEXT 5439488 PCTINCREASE 0)
/
CREATE TABLE FRS_FACILITY_CTGRY (
  FAC_CATGRY                              VARCHAR2(16)     NOT NULL,
  CATGRY_DESC                             VARCHAR2(265)    NOT NULL)
TABLESPACE D_FRS3
PCTFREE 10 PCTUSED 40
STORAGE(INITIAL 532480 NEXT 8192 PCTINCREASE 0)
/
CREATE TABLE FRS_FACILITY_HISTORY (
  FACILITY_UIN                            VARCHAR2(12)     NOT NULL,
  FINDS_ID                                VARCHAR2(12)     NULL,
  FACILITY_CATEGORY                       VARCHAR2(30)     NOT NULL,
  MONITORING_STATUS                       VARCHAR2(20)     NOT NULL,
  ARCHIVE_DATE                            DATE             NULL,
  DUPLICATE_UIN                           NUMBER(12,0)     NULL,
  USER_COMMENT                            VARCHAR2(240)    NULL,
  USER_ID                                 VARCHAR2(15)     NOT NULL,
  TIMESTAMP                               DATE             NOT NULL,
  SOURCE                                  VARCHAR2(10)     NOT NULL,
  OPERATION                               VARCHAR2(20)     NOT NULL)
TABLESPACE D_FRS3
PCTFREE 10 PCTUSED 40
STORAGE(INITIAL 57589760 NEXT 5554176 PCTINCREASE 0)
/
CREATE TABLE FRS_FACILITY_LINKAGE (
  PARENT_FACILITY_UIN                     VARCHAR2(12)     NOT NULL,
  CHILD_FACILITY_UIN                      VARCHAR2(12)     NOT NULL)
TABLESPACE D_FRS3
PCTFREE 10 PCTUSED 40
STORAGE(INITIAL 532480 NEXT 8192 PCTINCREASE 0)
/

CREATE TABLE FRS_FEEDBACK (
  PGM_SYS_ACRNM                           VARCHAR2(15)     NOT NULL,
  PGM_SYS_ID                              VARCHAR2(30)     NOT NULL,
  FACILITY_UIN                            VARCHAR2(12)     NULL,
  FINDS_ID                                VARCHAR2(12)     NULL,
  PRIMARY_NAME                            VARCHAR2(50)     NULL,
  LOCATION_ADDRESS                        VARCHAR2(50)     NULL,
  CITY_NAME                               VARCHAR2(30)     NULL,
  COUNTY_NAME                             VARCHAR2(35)     NULL,
```

```
  STATE_CODE                      VARCHAR2(2)      NOT NULL,
  POSTAL_CODE                     VARCHAR2(14)     NULL,
  EPA_REGION_CODE                 NUMBER(2,0)      NULL,
  DATA_QUALITY_CODE               VARCHAR2(20)     NULL,
  CREATE_DATETIME                 DATE             NOT NULL,
  REPORTED_DATETIME               DATE             NULL,
  USER_ID                         VARCHAR2(15)     NULL,
  SOURCE                          VARCHAR2(10)     NULL,
  PROCESSING_STATUS               VARCHAR2(20)     NULL,
  USER_COMMENT                    VARCHAR2(240)    NULL)
TABLESPACE D_FRS3
PCTFREE 10 PCTUSED 40
STORAGE(INITIAL 532480 NEXT 8192 PCTINCREASE 0)
/

CREATE TABLE FRS_MAILING_ADDRESS (
  MAIL_UIN                        NUMBER(12,0)     NOT NULL,
  DELIVERY_POINT                  VARCHAR2(50)     NOT NULL,
  SUPPLEMENTAL_ADDRESS            VARCHAR2(30)     NULL,
  CITY_NAME                       VARCHAR2(30)     NULL,
  STATE_CODE                      CHAR(2)          NOT NULL,
  STATE_NAME                      VARCHAR2(35)     NULL,
  POSTAL_CODE                     VARCHAR2(14)     NULL,
  COUNTRY_NAME                VARCHAR2(44)     NULL,
  SOUNDEX_CITY_NAME               CHAR(4)          NULL,
  TIMESTAMP                       DATE             NOT NULL,
  USER_ID                         VARCHAR2(15)     NOT NULL,
  SOURCE                          VARCHAR2(10)     NOT NULL,
  PGM_SYS_ACRNM                   VARCHAR2(15)     NULL)
TABLESPACE D_FRS3
PCTFREE 10 PCTUSED 40
STORAGE(INITIAL 16424960 NEXT 499712 PCTINCREASE 0)
/
CREATE TABLE FRS_NAICS (
  SOURCE                          VARCHAR2(10)     NULL,
  PGM_SYS_ACRNM                   VARCHAR2(15)     NOT NULL,
  PGM_SYS_ID                      VARCHAR2(30)     NOT NULL,
  NAIC_CODE                       VARCHAR2(6)      NOT NULL,
  PRIMARY_INDICATOR_CODE          VARCHAR2(1)      NULL)
TABLESPACE D_FRS3
PCTFREE 10 PCTUSED 40
STORAGE(INITIAL 532480 NEXT 8192 PCTINCREASE 0)
```

```
/
CREATE TABLE FRS_ORGANIZATION (
  ALTERNATE_PHONE                 VARCHAR2(30)     NULL,
  EMAIL_ADDRESS                   VARCHAR2(120)    NULL,
  FAX_PHONE                       VARCHAR2(30)     NULL,
  OFFICE_PHONE                    VARCHAR2(30)     NULL,
  OWNER_TYPE                      VARCHAR2(10)     NULL,
  ORGANIZATION_UIN                NUMBER(12,0)     NOT NULL,
  NAME                            VARCHAR2(50)     NOT NULL,
  DEPARTMENT_NAME                 VARCHAR2(50)     NULL,
  PARENT_COMPANY_NAME             VARCHAR2(50)     NULL,
  DUNS_COMPANY_NUMBER             VARCHAR2(9)      NULL,
  EIN                             VARCHAR2(14)     NULL,
  STATE_BUSINESS_ID               VARCHAR2(30)     NULL,
  SOUNDEX_ORG_NAME                CHAR(4)          NULL,
  TIMESTAMP                       DATE             NOT NULL,
  USER_ID                         VARCHAR2(15)     NOT NULL,
  SOURCE                          VARCHAR2(10)     NOT NULL,
  PGM_SYS_ACRNM                   VARCHAR2(15)     NULL)
TABLESPACE D_FRS3
PCTFREE 10 PCTUSED 40
STORAGE(INITIAL 22568960 NEXT 589824 PCTINCREASE 0)
/
CREATE TABLE FRS_ORGANIZATION_DSCRP (
  NOTIFICATION_DATE               DATE             NULL,
  ORGANIZATION_UIN                NUMBER(12,0)     NOT NULL,
  PGM_SYS_ACRNM                   VARCHAR2(15)     NOT NULL,
  PGM_SYS_ID                      VARCHAR2(30)     NOT NULL,
  AFFILIATION_TYPE                VARCHAR2(25)     NOT NULL,
  NAME                            VARCHAR2(50)     NOT NULL,
  DEPARTMENT_NAME                 VARCHAR2(50)     NULL,
  DUNS_COMPANY_NUMBER             VARCHAR2(9)      NULL,
  PARENT_COMPANY_NAME             VARCHAR2(50)     NULL,
  EIN                             VARCHAR2(14)     NULL,
  STATE_BUSINESS_ID               VARCHAR2(30)     NULL,
  MAIL_UIN                        NUMBER(12,0)     NOT NULL,
  DELIVERY_POINT                  VARCHAR2(50)     NOT NULL,
  SUPPLEMENTAL_ADDRESS            VARCHAR2(30)     NULL,
  CITY_NAME                       VARCHAR2(30)     NULL,
  STATE_CODE                      VARCHAR2(2)      NOT NULL,
  POSTAL_CODE                     VARCHAR2(14)     NULL,
  STATE_NAME                      VARCHAR2(35)     NULL,
```

```
  COUNTRY_NAME                VARCHAR2(44)      NULL,
  REPORTER_USER_ID            VARCHAR2(15)      NOT NULL,
  TIMESTAMP                   DATE              NOT NULL,
  REPORTER_COMMENT            VARCHAR2(120)     NULL,
  RECIPIENT_USER_ID           VARCHAR2(15)      NULL)
TABLESPACE D_FRS3
PCTFREE 10 PCTUSED 40
STORAGE(INITIAL 532480 NEXT 8192 PCTINCREASE 0)
/
CREATE TABLE FRS_ORGANIZATION_HISTORY (
  ORGANIZATION_UIN            NUMBER(12,0)      NOT NULL,
  NAME                        VARCHAR2(50)      NOT NULL,
  DEPARTMENT_NAME             VARCHAR2(50)      NULL,
  PARENT_COMPANY_NAME         VARCHAR2(50)      NULL,
  DUNS_COMPANY_NUMBER         VARCHAR2(9)       NULL,
  EIN                         VARCHAR2(14)      NULL,
  STATE_BUSINESS_ID           VARCHAR2(30)      NULL,
  DELIVERY_POINT              VARCHAR2(50)      NOT NULL,
  SUPPLEMENTAL_ADDRESS        VARCHAR2(30)      NULL,
  STATE_CODE                  VARCHAR2(2)       NOT NULL,
  CITY_NAME                   VARCHAR2(30)      NULL,
  STATE_NAME                  VARCHAR2(35)      NULL,
  POSTAL_CODE                 VARCHAR2(14)      NULL,
  COUNTRY_NAME                VARCHAR2(44)      NULL,
  SOUNDEX_ORG_NAME            CHAR(4)           NULL,
  SOUNDEX_CITY_NAME           CHAR(4)           NULL,
  USER_ID                     VARCHAR2(15)      NOT NULL,
  TIMESTAMP                   DATE              NOT NULL,
  SOURCE                      VARCHAR2(10)      NOT NULL,
  OPERATION                   VARCHAR2(20)      NOT NULL,
  ALTERNATE_PHONE             VARCHAR2(30)      NULL,
  EMAIL_ADDRESS               VARCHAR2(120)     NULL,
  FAX_PHONE                   VARCHAR2(30)      NULL,
  OFFICE_PHONE                VARCHAR2(30)      NULL,
  OWNER_TYPE                  VARCHAR2(10)      NULL)
TABLESPACE D_FRS3
PCTFREE 10 PCTUSED 40
STORAGE(INITIAL 532480 NEXT 8192 PCTINCREASE 0)
/
CREATE TABLE FRS_ORG_AFFILIATION (
  ORGANIZATION_UIN            NUMBER(12,0)      NOT NULL,
  PGM_SYS_ACRNM               VARCHAR2(15)      NOT NULL,
```

```
  PGM_SYS_ID                      VARCHAR2(30)      NOT NULL,
  AFFILIATION_TYPE                VARCHAR2(25)      NOT NULL,
  MAIL_UIN                        NUMBER(12,0)      NULL,
  TIMESTAMP                       DATE              NOT NULL,
  USER_ID                         VARCHAR2(15)      NOT NULL,
  SOURCE                          VARCHAR2(10)      NULL,
  EFFECTIVE_DATE                DATE              NULL,
  END_DATE                        DATE              NULL)
TABLESPACE D_FRS3
PCTFREE 10 PCTUSED 40
STORAGE(INITIAL 36249600 NEXT 753664 PCTINCREASE 0)
/
CREATE TABLE FRS_ORG_AFF_HISTORY (
  ORGANIZATION_UIN                NUMBER(12,0)      NOT NULL,
  PGM_SYS_ACRNM                   VARCHAR2(15)      NOT NULL,
  PGM_SYS_ID                      VARCHAR2(30)      NOT NULL,
  AFFILIATION_TYPE                VARCHAR2(25)      NOT NULL,
  TIMESTAMP                       DATE              NOT NULL,
  USER_ID                         VARCHAR2(15)      NOT NULL,
  SOURCE                          VARCHAR2(10)      NOT NULL,
  OPERATION                       VARCHAR2(20)      NOT NULL,
  EFFECTIVE_DATE                DATE              NULL,
  END_DATE                        DATE              NULL)
TABLESPACE D_FRS3
PCTFREE 10 PCTUSED 40
STORAGE(INITIAL 532480 NEXT 8192 PCTINCREASE 0)
/
CREATE TABLE FRS_PGM_FACILITY_DSCRP (
  NOTIFICATION_DATE               DATE              NULL,
  PGM_SYS_ACRNM                   VARCHAR2(15)      NOT NULL,
  PGM_SYS_ID                      VARCHAR2(30)      NOT NULL,
  FACILITY_UIN                    VARCHAR2(12)      NULL,
  FINDS_ID                        VARCHAR2(12)      NULL,
  FACILITY_NAME                   VARCHAR2(50)      NULL,
  LOCATION_ADDRESS                VARCHAR2(50)      NOT NULL,
  SUPPLEMENTAL_LOCATION           VARCHAR2(30)      NULL,
  CITY_NAME                       VARCHAR2(30)      NULL,
  STATE_CODE                      CHAR(2)           NOT NULL,
  STATE_NAME                      VARCHAR2(35)      NULL,
  COUNTY_NAME                     VARCHAR2(35)      NULL,
  POSTAL_CODE                     VARCHAR2(14)      NULL,
  COUNTRY_NAME                  VARCHAR2(44)      NULL,
```

```
  CONGRESSIONAL_DISTRICT_NUMBER       VARCHAR2(2)       NULL,
  LEGISLATIVE_DISTRICT_NUMBER         VARCHAR2(2)       NULL,
  HUC_CODE                         VARCHAR2(8)       NULL,
  FEDERAL_FACILITY_CODE               VARCHAR2(1)       NULL,
  TRIBAL_LAND_CODE                    VARCHAR2(1)       NULL,
  TRIBAL_LAND_NAME                    VARCHAR2(52)      NULL,
  DUNS_COMPANY_NUMBER                 VARCHAR2(9)       NULL,
  REPORTER_USER_ID                    VARCHAR2(15)      NOT NULL,
  TIMESTAMP                           DATE              NOT NULL,
  REPORTER_COMMENT                    VARCHAR2(120)     NULL,
  RECIPIENT_USER_ID                   VARCHAR2(15)      NULL)
TABLESPACE D_FRS3
PCTFREE 10 PCTUSED 40
STORAGE(INITIAL 532480 NEXT 8192 PCTINCREASE 0)
/
CREATE TABLE FRS_PGM_FACILITY_HISTORY (
  PARSED_STREET_NUMBER                VARCHAR2(8)       NULL,
  PARSED_STREET_NAME               VARCHAR2(50)      NULL,
  PGM_SYS_ACRNM                       VARCHAR2(15)      NOT NULL,
  PGM_SYS_ID                          VARCHAR2(30)      NOT NULL,
  STANZED_PRIM_NAME                   VARCHAR2(50)      NOT NULL,
  FACILITY_UIN                        VARCHAR2(12)      NULL,
  FINDS_ID                            VARCHAR2(12)      NULL,
  PRIMARY_NAME                        VARCHAR2(50)      NULL,
  LOCAL_NAME                          VARCHAR2(50)      NULL,
  OTHER_NAME                          VARCHAR2(50)      NULL,
  PROG_FAC_TYPE                       VARCHAR2(75)      NULL,
  PROG_FAC_STATUS                     VARCHAR2(10)      NULL,
  LOCATION_ADDRESS                    VARCHAR2(50)      NULL,
  SUPPLEMENTAL_LOCATION               VARCHAR2(30)      NULL,
  CITY_NAME                           VARCHAR2(30)      NULL,
  COUNTY_NAME                         VARCHAR2(35)      NULL,
  STATE_CODE                          CHAR(2)           NOT NULL,
  STATE_NAME                          VARCHAR2(35)      NULL,
  POSTAL_CODE                         VARCHAR2(14)      NULL,
  EPA_REGION_CODE                     NUMBER(2,0)       NOT NULL,
  COUNTRY_NAME                     VARCHAR2(44)      NULL,
  CONGRESSIONAL_DISTRICT_NUMBER       VARCHAR2(2)       NULL,
  LEGISLATIVE_DISTRICT_NUMBER         VARCHAR2(2)       NULL,
  HUC_CODE                         VARCHAR2(8)       NULL,
  FEDERAL_FACILITY_CODE               CHAR(1)           NULL,
  TRIBAL_LAND_CODE                    CHAR(1)           NULL,
```

```
  TRIBAL_LAND_NAME                VARCHAR2(52)     NULL,
  DATA_QUALITY_CODE               VARCHAR2(20)     NULL,
  DUNS_COMPANY_NUMBER             VARCHAR2(9)      NULL,
  USER_COMMENT                    VARCHAR2(240)    NULL,
  USER_ID                         VARCHAR2(15)     NOT NULL,
  TIMESTAMP                       DATE             NOT NULL,
  TRANSACTION_USER_ID             VARCHAR2(15)     NULL,
  TRANSACTION_DATE                DATE             NULL,
  SOURCE                          VARCHAR2(10)     NOT NULL,
  OPERATION                       VARCHAR2(20)     NOT NULL,
  NEW_UIN                         VARCHAR2(12)     NULL)
TABLESPACE D_FRS2
PCTFREE 10 PCTUSED 30
STORAGE(INITIAL 104857600 NEXT 10485760 PCTINCREASE 0)
/
CREATE TABLE FRS_PGM_MA_AFF (
  PGM_SYS_ACRNM                   VARCHAR2(15)     NOT NULL,
  PGM_SYS_ID                      VARCHAR2(30)     NOT NULL,
  AFF_TYPE                        VARCHAR2(25)     NOT NULL,
  MAIL_UIN                        NUMBER(12,0)     NULL,
  TIMESTAMP                       DATE             NOT NULL,
  USER_ID                         VARCHAR2(15)     NOT NULL,
  SOURCE                          VARCHAR2(10)     NULL)
TABLESPACE D_FRS3
PCTFREE 10 PCTUSED 40
STORAGE(INITIAL 532480 NEXT 524288 PCTINCREASE 0)
/
CREATE TABLE FRS_PROGRAM_FACILITY (
  PRIORITY_CATEGORY               VARCHAR2(15)     NOT NULL,
  PGM_SYS_ACRNM                   VARCHAR2(15)     NOT NULL,
  PGM_SYS_ID                      VARCHAR2(30)     NOT NULL,
  FACILITY_UIN                    VARCHAR2(12)     NOT NULL,
  FINDS_ID                        VARCHAR2(12)     NULL,
  STANDZED_PRIM_NAME              VARCHAR2(50)     NULL,
  PRIMARY_NAME                    VARCHAR2(50)     NOT NULL,
  LOCAL_NAME                      VARCHAR2(50)     NULL,
  OTHER_NAME                      VARCHAR2(50)     NULL,
  PROG_FAC_TYPE                   VARCHAR2(75)     NULL,
  PROG_FAC_STATUS                 VARCHAR2(10)     NULL,
  SOUNDEX_PRIM_NAME               CHAR(4)          NULL,
  SOUNDEX_LOCAL_NAME              CHAR(4)          NULL,
  LOCATION_ADDRESS                VARCHAR2(50)     NULL,
```

```
  SUPPLEMENTAL_LOCATION              VARCHAR2(30)      NULL,
  PARSED_PREDIRECTIONAL_CODE         VARCHAR2(6)       NULL,
  PARSED_STREET_NUMBER               VARCHAR2(8)       NULL,
  PARSED_STREET_NAME              VARCHAR2(50)      NULL,
  SOUNDEX_STREET_NAME                CHAR(4)           NULL,
  PARSED_STREET_SUFFIX               VARCHAR2(12)      NULL,
  PARSED_POST_DIR_CODE               VARCHAR2(6)       NULL,
  CITY_NAME                          VARCHAR2(30)      NULL,
  SOUNDEX_CITY_NAME                  CHAR(4)           NULL,
  COUNTY_NAME                        VARCHAR2(35)      NULL,
  SOUNDEX_COUNTY_NAME                CHAR(4)           NULL,
  STATE_CODE                         CHAR(2)           NULL,
  POSTAL_CODE                        VARCHAR2(14)      NULL,
  STATE_NAME                         VARCHAR2(35)      NULL,
  COUNTRY_NAME                    VARCHAR2(44)      NULL,
  EPA_REGION_CODE                    NUMBER(2,0)       NULL,
  CONGRESSIONAL_DIST_NUM             VARCHAR2(2)       NULL,
  LEGISLATIVE_DIST_NUM               VARCHAR2(2)       NULL,
  HUC_CODE                        VARCHAR2(8)       NULL,
  FEDERAL_FACILITY_CODE              CHAR(1)           NULL,
  TRIBAL_LAND_CODE                   CHAR(1)           NULL,
  TRIBAL_LAND_NAME                   VARCHAR2(52)      NULL,
  DUNS_COMPANY_NUMBER                VARCHAR2(9)       NULL,
  DATA_QUALITY_CODE                  VARCHAR2(20)      NOT NULL,
  USER_COMMENT                       VARCHAR2(240)     NULL,
  PRIORITY                           CHAR(2)           NULL,
  USER_ID                            VARCHAR2(15)      NOT NULL,
  TIMESTAMP                          DATE              NOT NULL,
  SOURCE                             VARCHAR2(10)      NULL,
  PROCESSING_STATUS                  VARCHAR2(20)      NULL)
TABLESPACE D_FRS1
PCTFREE 10 PCTUSED 40
STORAGE(INITIAL 300032000 NEXT 200007680 PCTINCREASE 0)
/
CREATE TABLE FRS_PROGRAM_INTEREST (
  PGM_SYS_CODE                       CHAR(2)           NULL,
  PGM_SYS_ACRNM                      VARCHAR2(15)      NOT NULL,
  PGM_SYS_NAME                       VARCHAR2(50)      NOT NULL,
  OFFICE_ACRNM                       VARCHAR2(30)      NULL,
  PGM_INTEREST_NAME                  VARCHAR2(100)     NULL)
TABLESPACE D_FRS3
PCTFREE 10 PCTUSED 40
```

```
STORAGE(INITIAL 532480 NEXT 8192 PCTINCREASE 0)
/
CREATE TABLE FRS_RES_CONTACT (
  PGM_SYS_ID                    VARCHAR2(30)     NOT NULL,
  PGM_SYS_ACRNM                 VARCHAR2(15)     NOT NULL,
  AFFILIATION_TYPE              VARCHAR2(25)     NOT NULL,
  FULL_NAME                     VARCHAR2(50)     NULL,
  LAST_NAME                     VARCHAR2(30)     NULL,
  TITLE                         VARCHAR2(30)     NULL,
  HOME_PHONE                    VARCHAR2(30)     NULL,
  OFFICE_PHONE                  VARCHAR2(30)     NULL,
  MOBILE_PHONE                  VARCHAR2(30)     NULL,
  FAX_PHONE                     VARCHAR2(30)     NULL,
  EMAIL_ADDRESS                 VARCHAR2(120)    NULL,
  DELIVERY_POINT                VARCHAR2(50)     NULL,
  SUPPLEMENTAL_ADDRESS          VARCHAR2(30)     NULL,
  CITY_NAME                     VARCHAR2(30)     NULL,
  STATE_CODE                    CHAR(2)          NULL,
  STATE_NAME                    VARCHAR2(35)     NULL,
  OPER_TYPE                     CHAR(2)          NULL,
  POSTAL_CODE                   VARCHAR2(14)     NULL,
  COUNTRY_NAME                VARCHAR2(44)     NULL)
TABLESPACE D_FRS3
PCTFREE 10 PCTUSED 40
STORAGE(INITIAL 2007040 NEXT 229376 PCTINCREASE 0)
/
CREATE TABLE FRS_RES_ERROR (
  TABLE_NAME                    VARCHAR2(50)     NULL,
  HANDLER_ID                    VARCHAR2(30)     NULL,
  ERROR_MESSAGE                 VARCHAR2(80)     NULL,
  OPER_TYPE                     CHAR(2)          NULL)
TABLESPACE D_FRS3
PCTFREE 10 PCTUSED 40
STORAGE(INITIAL 2023424 NEXT 16384 PCTINCREASE 0)
/
CREATE TABLE FRS_RES_FACILITY (
  PRIORITY_CATEGORY             VARCHAR2(15)     NOT NULL,
  PROG_FAC_TYPE                 VARCHAR2(75)     NULL,
  PROG_FAC_STATUS               VARCHAR2(10)     NULL,
  LOCATION_ADDRESS              VARCHAR2(50)     NULL,
  SUPPLEMENTAL_LOCATION         VARCHAR2(30)     NULL,
  PARSED_STREET_NUMBER          VARCHAR2(8)      NULL,
```

```
  PARSED_PREDIR_CODE                VARCHAR2(6)       NULL,
  PARSED_STREET_NAME          VARCHAR2(50)      NULL,
  PARSED_STREET_SUFFIX              VARCHAR2(12)      NULL,
  PARSED_POSTDIR_CODE               VARCHAR2(6)       NULL,
  CITY_NAME                         VARCHAR2(30)      NULL,
  STATE_CODE                        CHAR(2)           NULL,
  STATE_NAME                        VARCHAR2(35)      NULL,
  COUNTY_NAME                       VARCHAR2(35)      NULL,
  POSTAL_CODE                       VARCHAR2(14)      NULL,
  COUNTRY_NAME                VARCHAR2(44)      NULL,
  EPA_REGION_CODE                   NUMBER(2,0)       NULL,
  CONGRESSIONAL_DIST_NUM            CHAR(2)           NULL,
  LEGISLATIVE_DIST_NUM              CHAR(2)           NULL,
  HUC_CODE                    CHAR(8)           NULL,
  FEDERAL_FACILITY_CODE             CHAR(1)           NULL,
  TRIBAL_LAND_CODE                  CHAR(1)           NULL,
  TRIBAL_LAND_NAME                  VARCHAR2(52)      NULL,
  DUNS_COMPANY_NUMBER               VARCHAR2(9)       NULL,
  DATA_QUALITY_CODE                 VARCHAR2(20)      NULL,
  PROCESSING_STATUS                 CHAR(1)           NULL,
  OPER_TYPE                         CHAR(2)           NULL,
  PGM_SYS_ACRNM                     VARCHAR2(15)      NOT NULL,
  PGM_SYS_ID                        VARCHAR2(30)      NOT NULL,
  FINDS_ID                          VARCHAR2(12)      NULL,
  STNDZED_PRIM_NAME                 VARCHAR2(50)      NULL,
  PRIMARY_NAME                      VARCHAR2(50)      NULL,
  LOCAL_NAME                        VARCHAR2(50)      NULL,
  OTHER_NAME                        VARCHAR2(50)      NULL)
TABLESPACE D_FRS3
PCTFREE 10 PCTUSED 40
STORAGE(INITIAL 6840320 NEXT 352256 PCTINCREASE 0)
/
CREATE TABLE FRS_RES_HISTORY (
  PGM_SYS_ACRNM                     VARCHAR2(15)      NOT NULL,
  PHASE                             VARCHAR2(20)      NOT NULL,
  STATUS                            VARCHAR2(20)      NULL,
  START_TIME                        DATE              NULL,
  END_TIME                          DATE              NULL,
  NUM_OF_PHASES               NUMBER(7,0)       NULL)
TABLESPACE D_FRS3
PCTFREE 10 PCTUSED 40
STORAGE(INITIAL 532480 NEXT 8192 PCTINCREASE 0)
```

```
/
CREATE TABLE FRS_RES_LINKS (
  PARENT_FACILITY_UIN                VARCHAR2(12)      NOT NULL,
  CHILD_FACILITY_UIN                 VARCHAR2(12)      NOT NULL,
  OPER_TYPE                          VARCHAR2(2)       NULL)
TABLESPACE D_FRS3
PCTFREE 10 PCTUSED 40
STORAGE(INITIAL 532480 NEXT 8192 PCTINCREASE 0)
/
CREATE TABLE FRS_RES_MAIL (
  PGM_SYS_ID                         VARCHAR2(30)      NOT NULL,
  PGM_SYS_ACRNM                      VARCHAR2(15)      NOT NULL,
  CITY_NAME                          VARCHAR2(30)      NULL,
  STATE_CODE                         CHAR(2)           NULL,
  STATE_NAME                         VARCHAR2(35)      NULL,
  POSTAL_CODE                        VARCHAR2(14)      NULL,
  COUNTRY_NAME                  VARCHAR2(44)      NULL,
  OPER_TYPE                          VARCHAR2(2)       NULL,
  DELIVERY_POINT                     VARCHAR2(50)      NULL,
  SUPPLEMENTAL_ADDRESS               VARCHAR2(30)      NULL)
TABLESPACE D_FRS3
PCTFREE 10 PCTUSED 40
STORAGE(INITIAL 4194304 NEXT 524288 PCTINCREASE 0)
/
CREATE TABLE FRS_RES_ORG (
  EFFECTIVE_DATE                DATE              NULL,
  ALTERNATE_PHONE                    VARCHAR2(30)      NULL,
  EMAIL_ADDRESS                      VARCHAR2(120)     NULL,
  FAX_PHONE                          VARCHAR2(30)      NULL,
  OFFICE_PHONE                       VARCHAR2(30)      NULL,
  OWNER_TYPE                         VARCHAR2(10)      NULL,
  END_DATE                           DATE              NULL,
  PGM_SYS_ID                         VARCHAR2(30)      NOT NULL,
  PGM_SYS_ACRNM                      VARCHAR2(15)      NOT NULL,
  AFFILIATION_TYPE                   VARCHAR2(25)      NOT NULL,
  NAME                               VARCHAR2(50)      NULL,
  DEPARTMENT_NAME                    VARCHAR2(50)      NULL,
  DUNS_COMPANY_NUMBER                VARCHAR2(9)       NULL,
  PARENT_COMPANY_NAME                VARCHAR2(50)      NULL,
  EIN                                VARCHAR2(14)      NULL,
  STATE_BUSINESS_ID                  VARCHAR2(30)      NULL,
  DELIVERY_POINT                     VARCHAR2(50)      NULL,
```

```
  SUPPLEMENTAL_ADDRESS                VARCHAR2(30)      NULL,
  CITY_NAME                           VARCHAR2(30)      NULL,
  STATE_CODE                          CHAR(2)           NULL,
  STATE_NAME                          VARCHAR2(35)      NULL,
  POSTAL_CODE                         VARCHAR2(14)      NULL,
  COUNTRY_NAME                  VARCHAR2(44)      NULL,
  SOURCE                              VARCHAR2(10)      NULL,
  OPER_TYPE                           VARCHAR2(2)       NULL)
TABLESPACE D_FRS3
PCTFREE 10 PCTUSED 40
STORAGE(INITIAL 4259840 NEXT 344064 PCTINCREASE 0)
/
CREATE TABLE FRS_RES_SIC (
  SOURCE                              VARCHAR2(25)      NULL,
  PGM_SYS_ID                          VARCHAR2(30)      NOT NULL,
  PGM_SYS_ACRNM                       VARCHAR2(15)      NOT NULL,
  SIC_CODE                            CHAR(4)           NOT NULL,
  PRIMARY_INDICATOR_CODE              CHAR(1)           NULL,
  OPER_TYPE                           CHAR(2)           NULL)
TABLESPACE D_FRS3
PCTFREE 10 PCTUSED 40
STORAGE(INITIAL 737280 NEXT 65536 PCTINCREASE 0)
/
CREATE TABLE FRS_RES_STATUS (
  PGM_SYS_ACRNM                       VARCHAR2(15)      NOT NULL,
  PHASE                               VARCHAR2(20)      NOT NULL,
  CURRENT_STATUS                      VARCHAR2(20)      NULL,
  START_TIME                          DATE              NULL,
  END_TIME                            DATE              NULL,
  NUM_OF_PHASES                 NUMBER(7,0)       NULL)
TABLESPACE D_FRS3
PCTFREE 10 PCTUSED 40
STORAGE(INITIAL 532480 NEXT 8192 PCTINCREASE 0)
/
CREATE TABLE FRS_SIC (
  SOURCE                              VARCHAR2(25)      NULL,
  PGM_SYS_ACRNM                       VARCHAR2(15)      NOT NULL,
  PGM_SYS_ID                          VARCHAR2(30)      NOT NULL,
  SIC_CODE                            CHAR(4)           NOT NULL,
  PRIMARY_INDICATOR_CODE              CHAR(1)           NULL)
TABLESPACE D_FRS3
PCTFREE 10 PCTUSED 40
```

```
STORAGE(INITIAL 13082624 NEXT 442368 PCTINCREASE 0)
/
CREATE TABLE FRS_SIC_NAIC_DSCRP (
  NOTIFICATION_DATE                DATE            NULL,
  PGM_SYS_ACRNM                    VARCHAR2(15)    NOT NULL,
  PGM_SYS_ID                       VARCHAR2(30)    NOT NULL,
  SIC_CODE                         CHAR(4)         NULL,
  NAIC_CODE                        VARCHAR2(6)     NULL,
  PRIMARY_INDICATOR_CODE           CHAR(1)         NULL,
  REPORTER_USER_ID                 VARCHAR2(15)    NOT NULL,
  TIMESTAMP                        DATE            NOT NULL,
  REPORTER_COMMENT                 VARCHAR2(120)   NULL,
  RECIPIENT_USER_ID                VARCHAR2(15)    NULL)
TABLESPACE D_FRS3
PCTFREE 10 PCTUSED 40
STORAGE(INITIAL 532480 NEXT 8192 PCTINCREASE 0)
/
CREATE TABLE FRS_USERID_HISTORY (
  USERID                           VARCHAR2(15)    NOT NULL,
  USERPW                           VARCHAR2(30)    NOT NULL)
TABLESPACE D_FRS3
PCTFREE 10 PCTUSED 40
STORAGE(INITIAL 532480 NEXT 8192 PCTINCREASE 0)
/
CREATE TABLE FRS_USER_REGISTRY (
  PW_EXPIRE_DATE                   DATE            NULL,
  LAST_LOGON_TIME                  DATE            NULL,
  LAST_UPDATE_TIME                 DATE            NULL,
  USER_STATUS                      VARCHAR2(1)     NOT NULL,
  EMAIL_ADDRESS                    VARCHAR2(120)   NULL,
  USER_ID                          VARCHAR2(15)    NOT NULL,
  USER_PW                          VARCHAR2(20)    NOT NULL,
  FIRST_NAME                       VARCHAR2(20)    NOT NULL,
  LAST_NAME                        VARCHAR2(30)    NOT NULL,
  COMPANY_NAME                VARCHAR2(30)    NOT NULL,
  USER_CATEGORY                    VARCHAR2(10)    NOT NULL,
  MAIL_ADDRESS                     VARCHAR2(30)    NULL,
  MAIL_CITY_NAME                   VARCHAR2(30)    NULL,
  MAIL_POSTAL_CODE                 VARCHAR2(14)    NULL,
  MAIL_STATE_CODE                  VARCHAR2(2)     NULL,
  TITLE                            VARCHAR2(30)    NULL,
  TELEPHONE_NUMBER                 VARCHAR2(30)    NULL,
```

```
  FAX_NUMBER                              VARCHAR2(30)      NULL)
TABLESPACE D_FRS3
PCTFREE 10 PCTUSED 40
STORAGE(INITIAL 532480 NEXT 8192 PCTINCREASE 0)
/
CREATE TABLE PLACE_REFERENCE (
  STATUS_CODE                             CHAR(1)           NULL,
  STATUS_CD_TS                            VARCHAR2(8)       NULL,
  COUNTRY_IDENTIFIER                      NUMBER(7,0)       NULL,
  COUNTRY_CODE                            CHAR(2)           NULL,
  COUNTRY_NAME                      VARCHAR2(52)      NULL,
  STATE_IDENTIFIER                        NUMBER(7,0)       NULL,
  STATE_CODE                              CHAR(2)           NULL,
  US_STATE_ABBREV_NM                      CHAR(2)           NULL,
  STATE_NAME                              VARCHAR2(52)      NULL,
  EPA_REGION_ID                           NUMBER(7,0)       NULL,
  EPA_REGION_CODE                         CHAR(2)           NULL,
  EPA_REGION_NAME                         VARCHAR2(20)      NULL,
  COUNTY_IDENTIFIER                       NUMBER(7,0)       NULL,
  COUNTY_CODE                             CHAR(3)           NULL,
  COUNTY_NAME                             VARCHAR2(52)      NULL)
TABLESPACE D_FRS3
PCTFREE 10 PCTUSED 40
STORAGE(INITIAL 532480 NEXT 65536 PCTINCREASE 0)
```